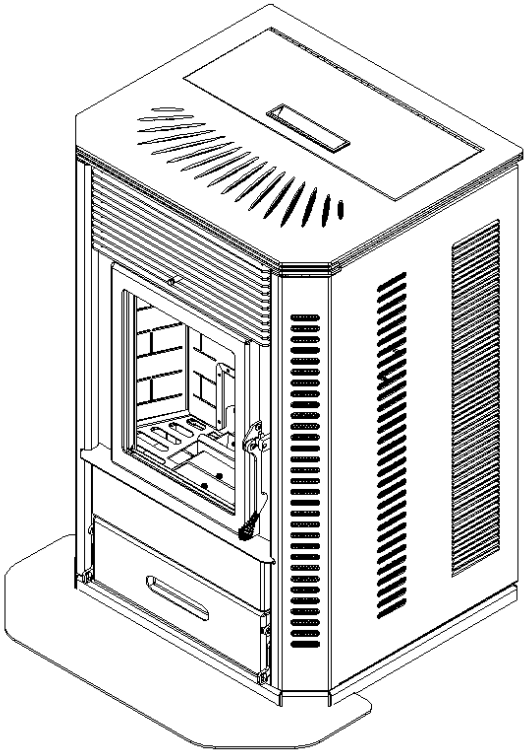
Installation & Operations Manual

Element-MF

With

SmartScan Maintenance Sensor

Patent Pending



"Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death."

"Contact local building or fire officials about restrictions and installation inspection requirements in your area.

Save these Instructions
813

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GENERAL INFORMATION
SAFETY PRECAUTIONS

SAFETY NOTICE: The Element-MF must be properly installed in order to prevent the possibility of a house fire! These installation instructions must be strictly observed! The Maintenance schedule must be followed as described in this manual. Failure to follow instructions may result in property damage, bodily injury or even death.

The Element-MF's exhaust system works with negative combustion chamber pressure and a slightly positive chimney pressure. Therefore, it is imperative that the air intake and exhaust system be airtight and installed correctly. Do not install a flue damper in the exhaust vent of this unit.

Do not connect this unit to a chimney flue serving another appliance.

BUILDING PERMIT

CONTACT THE LOCAL BUILDING OFFICIALS TO OBTAIN A PERMIT AND INFORMATION ON ANY LOCAL INSTALLATION RESTRICTIONS AND INSPECTION REQUIREMENTS.

DEFINITION OF "MULTI-FUEL STOVE"

The word "Multi-Fuel Stove" as used in this manual is interpreted to mean a corn, wheat, rye Distillers Grain pellets, Cherry pits or wood pellet burning Multi-Fuel Stove. This model is not intended as the sole source of heat.

SAFETY TESTING

The Element-MF has been independently tested and listed by Warnock Hersey Laboratories in accordance with the proposed ASTM E 1509-2004 Standards and the applicable portions of UL 1482 and ULC S627/B366.2, and Oregon Administrative Rules 814-23-901 through 814-23-909, stating requirements for installation the Element-MF and for mobile home installations. The safety-listing label is located on the back of the unit. Please refer to label for pertinent information.

DISCLAIMER OF WARRANTY

Since Even Temp Company has no control over the installation of the Element-MF, Even Temp Company grants no warranty, implied or stated, for the installation of the Element-MF and assumes no responsibility for any special, incidental or consequential damages.

MANUFACTURED BY:

Even Temp Inc
Hwy 34
Waco, NE, 68467

BEFORE INSTALLATION THOROUGHLY READ AND UNDERSTAND THIS MANUAL

SAFETY NOTICE

PLEASE READ THE ENTIRE MANUAL BEFORE INSTALLING AND USING YOUR NEW MULTI-FUEL STOVE. FAILURE TO FOLLOW INSTRUCTIONS MAY RESULT IN POPERTY DAMAGE, BODILY INJURY, OR EVEN DEATH.

INSTALLATION CHECK LIST

FOR USE IN THE U.S. AND CANADA

MOBILE HOME APPROVED

CHECK WITH LOCAL AUTHORITIES AND OBTAIN NEEDED PERMITS

WE RECOMMEND INSTALLATION BY A QUALIFIED PROFESSIONAL.

BEFORE STARTING THE MULTI-FUEL STOVE FOR THE FIRST TIME

1. Under certain conditions outside combustion air is recommended. Use only approved parts. When using out side air for combustion, check that the outside air inlet is connected to draw fresh air from outside the building.

2. All joints of PL vent and single wall stainless steel pipe should be fastened by at least 3 screws and correctly installed. (Follow vent manufacturer's instructions). Seal all joints with high temperature silicone to create an airtight seal.

3. WARNING: The high temperature paint on this Multi-Fuel Stove may take several hours of burning at a high fuel setting to cure fully. During this time, an odor that is not harmful may be evident. When odors are present, the area around the Multi-Fuel Stove should be well ventilated.

4. Caution: The high temperature paint can be easily scratched prior to burning the Multi-Fuel Stove.

CAUTION

FAILURE TO FOLLOW THE INSTRUCTIONS IN THE INSTALLATIONS MANUAL MAY RESULT IN A HOUSE FIRE. PLEASE FOLLOW INSTALLATION AND MAINTENANCE INSTRUCTIONS.

Element-MF

Stove Layout

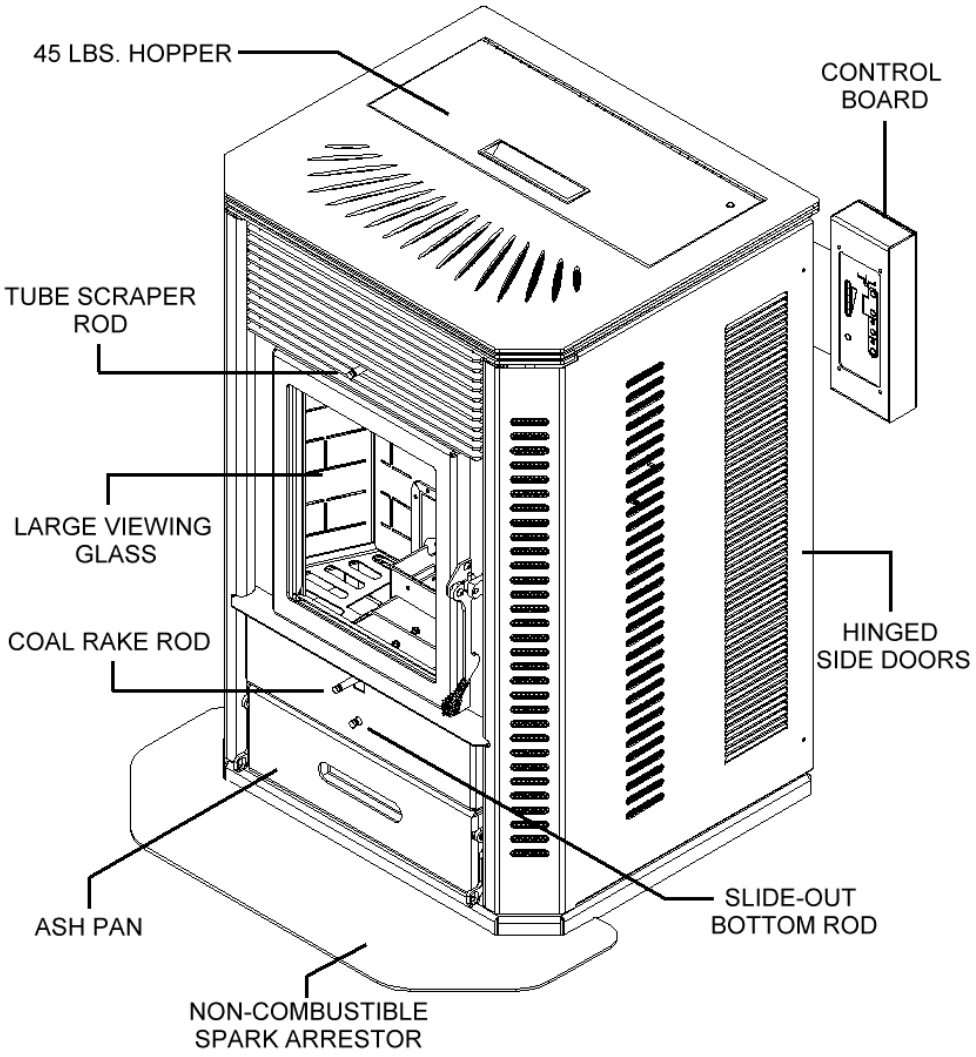


Figure 1

There are two burn systems used in the Element Series. These systems are interchangeable in the stove body. This Manual covers the **ELEMENT-MF**, which uses the **Multi-Fuel Burn System**

The **Multi-Fuel Burn System** is the St. Croix Patented **"Clinker Removal System".** This burn pot allows the clinker to be removed without loosing the fire in the pot. This eliminates the need of having to re-light the Element-MF after removing the clinker. ***This burn system does not have Self-Ignition.*** It is approved for Pellets Corn, Wheat, Rye, Cherry Pits & Distillers Grain Pellets.

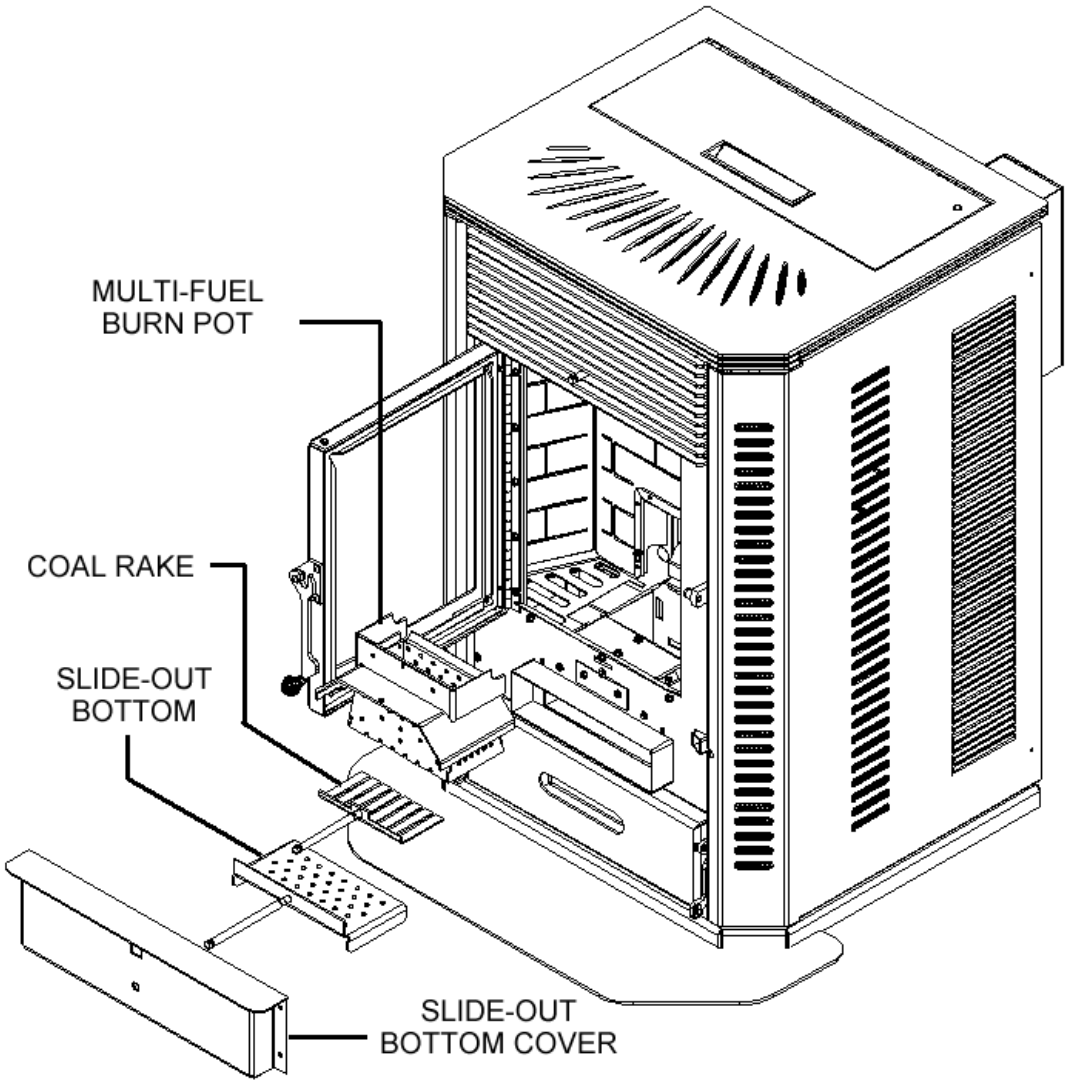


Figure 2

Multi-Fuel Burn System approved with the following Fuels:

Pellets, Corn, Wheat, Rye, Cherry Pits & Distillers Grain Pellets

STOVE DIMENSIONS

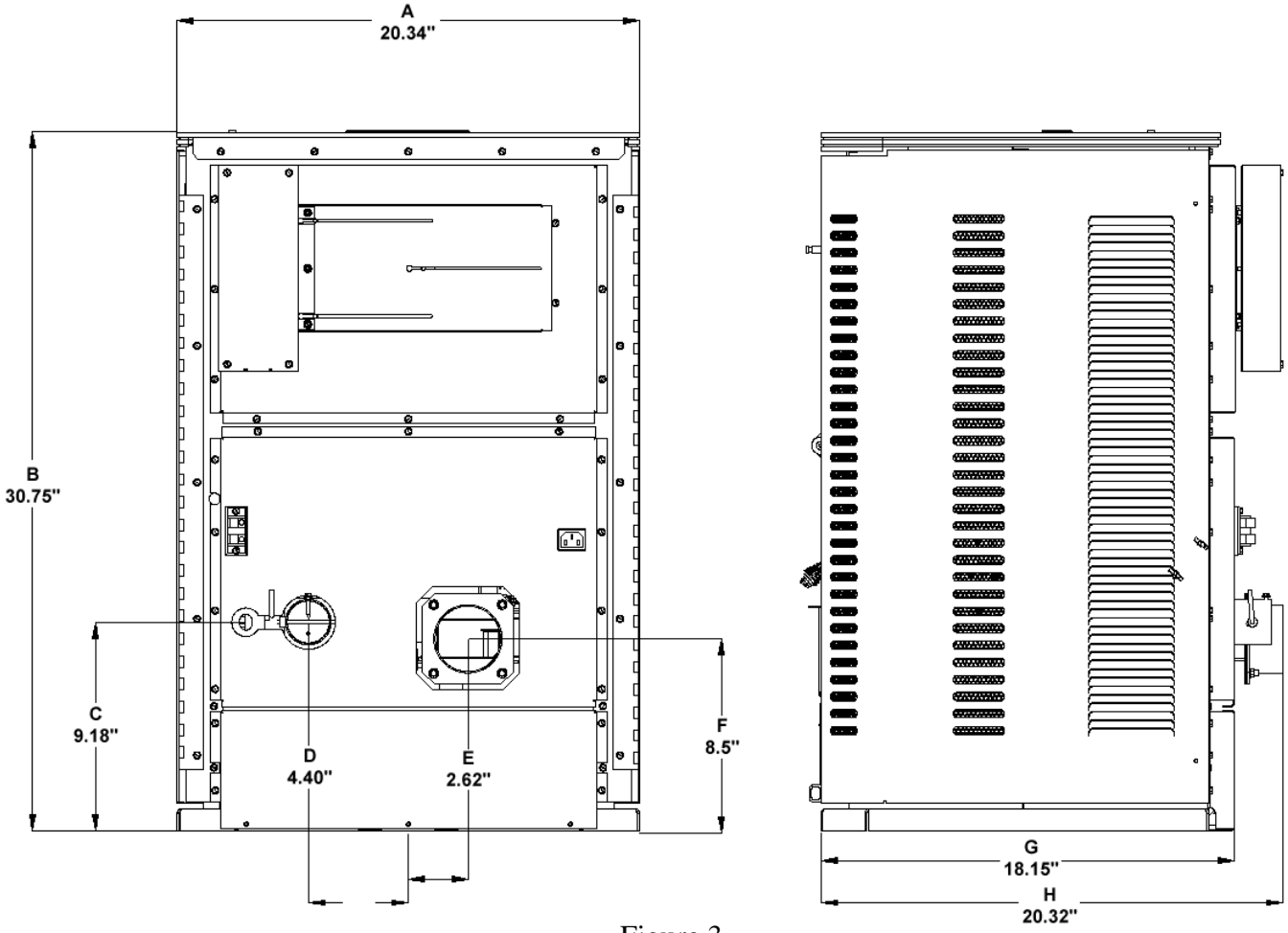


Figure 3

A - Width of Stove
B – Height of Stove
C – Center of Air Intake from Base of Stove
D - Center of Stove to Center of Air Intake
E - Center of stove to center of exhaust
F - Center of exhaust from Base of Stove
G – Front of Stove to Back of Stove
H – Front of Stove to end of Exhaust Pipe

Approved Installations

The Element-MF is approved for CONVENTIONAL and MOBILE HOME installations as a FREESTANDING stove. The stove may also be installed on the Hearth in front of a Fireplace and vented through the chimney of the fireplace.

Caution

INSTALLATION IS TO BE PERFORMED BY A QUALIFIED INSTALLER OR DEALER.

ADHERE TO ALL CLEARANCES SPECIFIED BY THE MANUFACTURER OF THE VENTING SYSTEM.

ADHERE TO ALL CLEARANCES SPECIFIED IN THE INSTALLATION MANUAL OF THE ELEMENT-MF STOVE.

THE ELEMENT-MF USES A POSITIVE PRESSURE VENT SYSTEM. DO NOT INSTALL A FLUE DAMPER IN THE EXHAUST SYSTEM OF UNIT

DO NOT CONNECT THE ELEMENT-MF STOVE TO A CHIMNEY SYSTEM THAT IS CONNECTED TO ANOTHER APPLIANCE.

DO NOT INSTALL THIS UNIT IN A SLEEPING ROOM

ATTENTION

CONDENSATION: When planning the installation of your Element-MF Stove, keep in mind that condensation is detrimental to exhaust systems. Corn, Wheat, & Rye have higher moisture content than pellets and can be more susceptible to condensation forming in certain types of installations. Install the Element-MF with a minimum of the Vent system exposed to the cold temperatures outside the envelope of the house. Insulate the vent system if in doubt. Check with the manufacturer of your venting system that they honor the warranty of their PL Vent with the use of corn.

ATTENTION

BATTERY BACKUP: We strongly recommend using a battery backup system if the Element-MF is installed using horizontal venting only. This prevents any smoke from entering your home in the event of a power failure. The battery back-up system must provide "pure sine wave" power to operate the unit.

VENTING: APPROVED MATERIALS

The Element-MF requires a venting system approved for pellet or corn venting by a certified testing lab. Approved pellet or corn venting materials are: 1) PL vent, a double wall vent with a stainless steel liner; and 2) Single wall rigid or flexible stainless steel pipe. PL Vent and Single wall vent is available through manufacturers such as: ICC Pellet Vent, Energy Vent LTD, James A. Ryder, Simpson Dura Vent and Selkirk Metalbestos and is carried by many local dealers. In this manual approved venting will be referred to a "PL vent" or "Single wall vent". All single wall vent adaptors must be stainless steel.

NOTE: TYPE "B" GAS VENT MUST NOT BE USED IN THE INSTALLATION OF THIS MULTI-FUEL STOVE

Examples of venting system components follow:

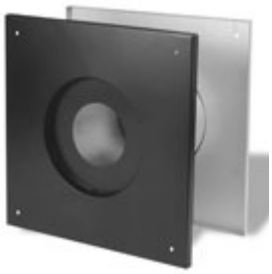
High temperature ceramic roping reduces potential fly ash escaping through joints.

Stainless steel inner liners resist corrosive flue gas damage to the system.

Flex pipe should be stainless steel, 4 ply construction with a total thickness of approximately .07 inches.

TYPICAL PL VENT COMPONENTS

RAIN CAP VERTICAL OR HORIZONTAL



WALL THIMBLE

CHIMNEY ADAPTER

SUPPORT BRACKET

ADJUSTABLE LENGTH *PIPE*

SINGLE TEE *w/TEE CAP*

SINGLE REDUCTION *TEE w/TEE CAP*

DOUBLE TEE *w/TEE CAP*

PIPE ADAPTER

INCREASER

45^0 ELBOW

90^0 ELBOW

VENTING: DETERMINING MATERIALS

TYPE OF MATERIALS:

1. PL Vent / Corn Vent must be used.

2. All Joints in the venting installation must be fastened together using three screws. All joints of the venting system must be sealed with High Temp Silicone to make a gas tight fit.

3. **Exception: Single wall stainless steel may be used inside an existing chimney.** (No clearances to combustibles are needed on single wall stainless steel adaptors, rigid or flex pipe installed within a chimney.)

4. A clean-out "tee" (PL Vent or "Quick-Connect Exhaust") must be installed directly to the Stove and at the bottom of each vertical run of the exhaust system. These tees are to assist in periodically cleaning the pipe. Single or double clean-out tees may be used. **The exhaust system must be installed so the entire system can be cleaned without disassembly.**

NOTE: ADHERE TO THE PL VENT CLEARANCES TO COMBUSTIBLES AS REQUIRED. STRICTLY OBSERVE THE PL VENT MANUFACTURER'S SAFETY SPECIFICATIONS.

QUANTITY OF MATERIALS:

1. It is recommended that the vent system be installed with a **minimum of three feet (3') of vertical rise** above the exhaust port on the back of the Element-MF.

FAILURE TO PROVIDE THE NATURAL DRAFT THAT RESULTS FROM A VERTICAL RISE MAY RESULT IN SMOKE BEING RELEASED INTO THE HOUSE WHEN ELECTRICITY TO THE UNIT IS INTERRUPTED WHILE BURNING OR SMOLDERING FUEL REMAINS IN THE BURN GRATE. (*See "Battery Backup" on page 9)*

2. It is not recommended to run vertical venting outside the heated environment where the Element-MF is installed. Running a venting system in a cold environment may cause the flue temperatures to cool down too much for adequate drafting.

Additional vertical exhaust venting should be provided when using:

a. More than one (1) elbow or tee; and/or

b. Horizontal runs of over three (3) feet. *(Horizontal runs over 10 feet not recommended)*

3. For a venting system ending in a horizontal run, the exhaust pipe must be terminated by a listed end cap or a PL vent elbow (45 or 90 degrees). Note: End caps or elbows must vent exhaust gases away from the building.

4. For termination above the building roofline a rain cap is required.

5. The exhaust pipe on all Element-MF's is 3" O.D. to accommodate a pipe adaptor.

VENTING: TERMINATION REQUIREMENTS

In determining optimum vent termination, carefully evaluate external conditions especially when venting directly through a wall. Since you must deal with odors, gases, and fly ash, consider aesthetics, prevailing winds, distances from air inlets and combustibles, location of adjacent structures and any code requirements.

1. Exhaust must terminate above combustion air inlet elevation.
2. Do not terminate vent in any enclosed or semi-enclosed area, (i.e. Carports, garage, attic crawl space, etc.) or any location that can build up a concentration of fumes.
3. Vent surfaces can get hot enough to cause burns if touched by children. Non-combustible shielding or guards may be required

The type of installation must first be considered before determining the exact location of the venting termination in relation ship to doors, window, cavities or air vents.

a. **Without** Outside Air connected to the unit. For this types of installation please refer to the dimensions listed below in figure 4.

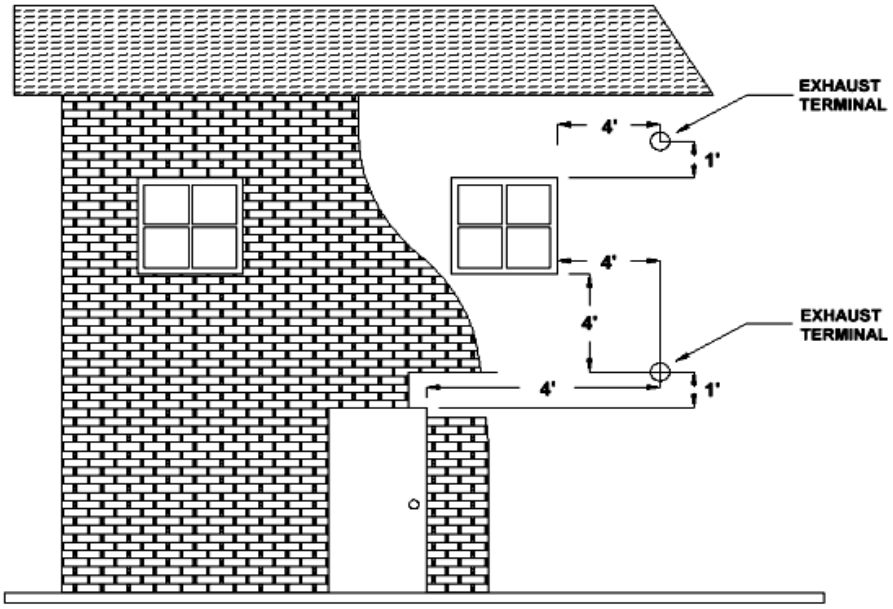


Figure 4

4' (1.2 m) BELOW	a door, window, cavity, or air vent
Or	
4' (1.2 m) HORIZONTALLY FROM	a door, window, cavity, or air vent
Or	
1' (305 mm) ABOVE	a door, window, cavity, or air vent

b. **With** Outside Air Connected to the unit. In this manner the appliance is a Direct Vent Appliance (sealed Combustion System) as listed in NFPA 211-6.

3.3.3.2 Direct Vent Appliance (Sealed Combustion System Appliance) A system consisting of an appliance, combustion air and flue gas connections between the appliance and the outside atmosphere, and a vent cap supplied by the manufacturer, and constructed so that all the air for combustion is obtained from the outside atmosphere and all flue gases are discharged to the outside atmosphere.

Special Venting Arrangements are listed in NFPA 211-31

10.7.1.2 The Vent Terminal of a Direct Vent Appliance with an input of 10000 BTU/Hr or less shall be located at least 6" from any opening into a building, and such an appliance with an input of over 10000 BTU/Hr, but not over 50000 BTU/Hr shall not be located less than 9" from any opening through which vent gases could enter a building, and the vent terminal of such appliance with an input over 50000 BTU/Hr shall be located not less than 12" from the opening.

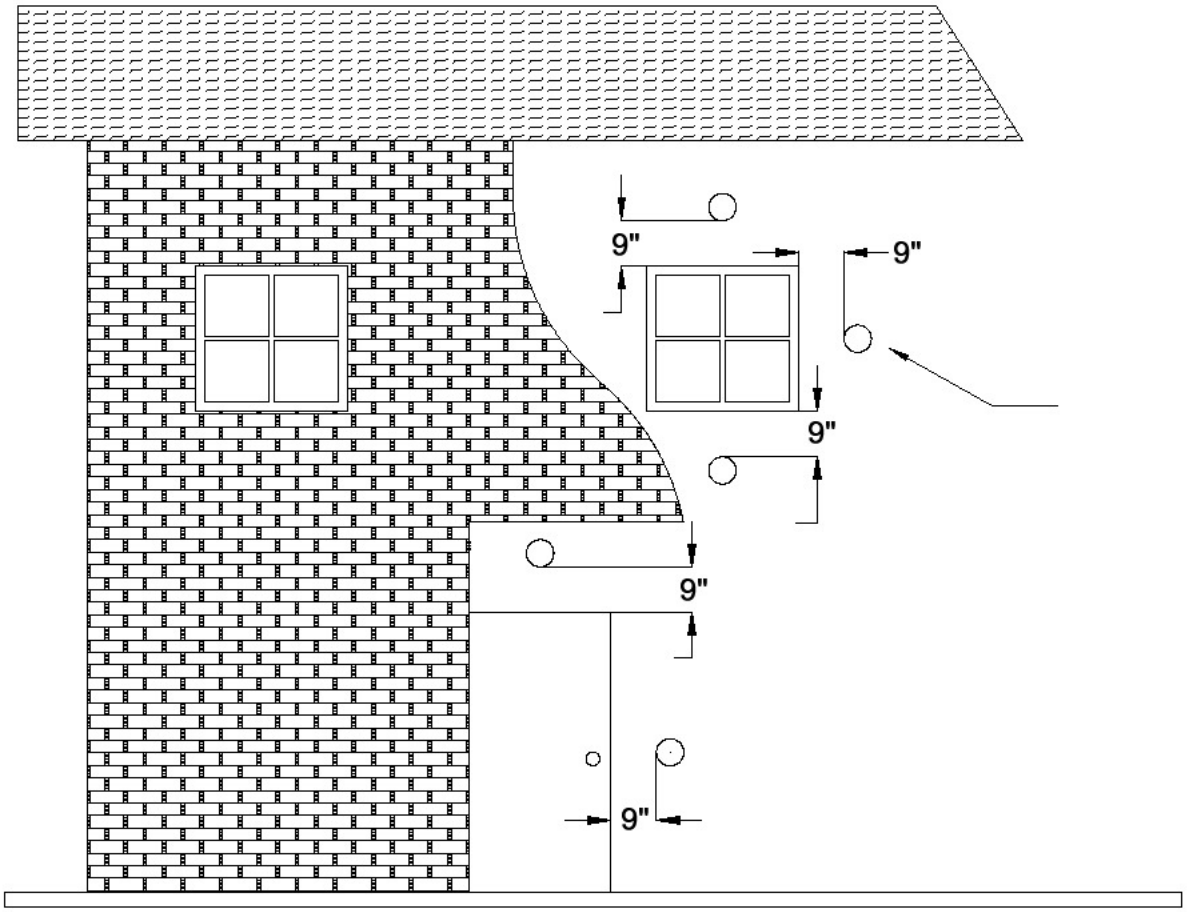


Figure 5

9" (229 mm) ABOVE, BELOW OR HORIZONTALLY FROM a door, window, cavity, or air vent.

VENTING: TERMINATION CLEARANCE REQUIREMENTS

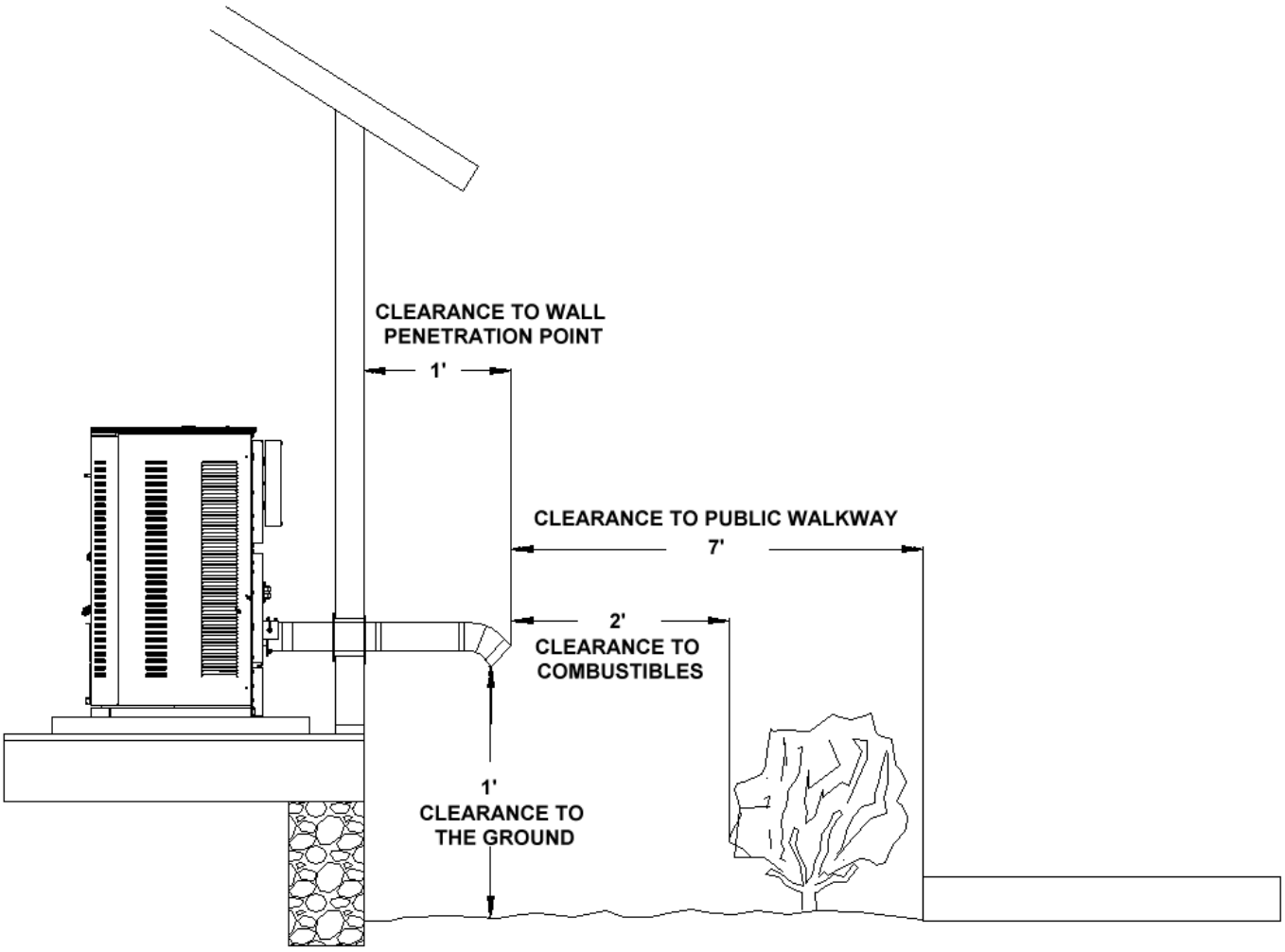


Figure 6

THE EXHAUST TERMINATION LOCATION MUST BE AT LEAST

1’ (305 mm)	ABOVE the ground level
7’ (2.1 m)	FROM a public walkway
1’ (305 mm)	FROM The wall penetration point
3’ (915mm)	FROM a gas meter/regulator assembly
2’ (610 mm)	FROM any adjacent combustibles such as: Adjacent buildings, fences, protruding parts of the structure, roof eaves or overhangs, plants, shrubs, etc.

VENTING: INTO AN EXISTING CHIMNEY

The stove may be connected to an existing Class A chimney or a masonry chimney which meets the minimum requirements of NFPA 211.

1. If the stove's exhaust is connected to a masonry chimney, the masonry chimney must be free of cracks that could leak exhaust gases or fly ash. A relining of the chimney with either PL vent or single wall stainless steel pipe may be necessary to bring the chimney into compliance.
2. When chimneys are relined, a chimney chase cap that reduces the outlet of the chimney to the size of the liner is required. Extend the exhaust vent above the chimney chase cap and finish it off with a rain cap. **A single wall liner may need to be insulated to maintain adequate exhaust temperatures in the vent system** ***Note: Outside Chimneys frequently are difficult to keep warm, if in doubt insulate the liner.***

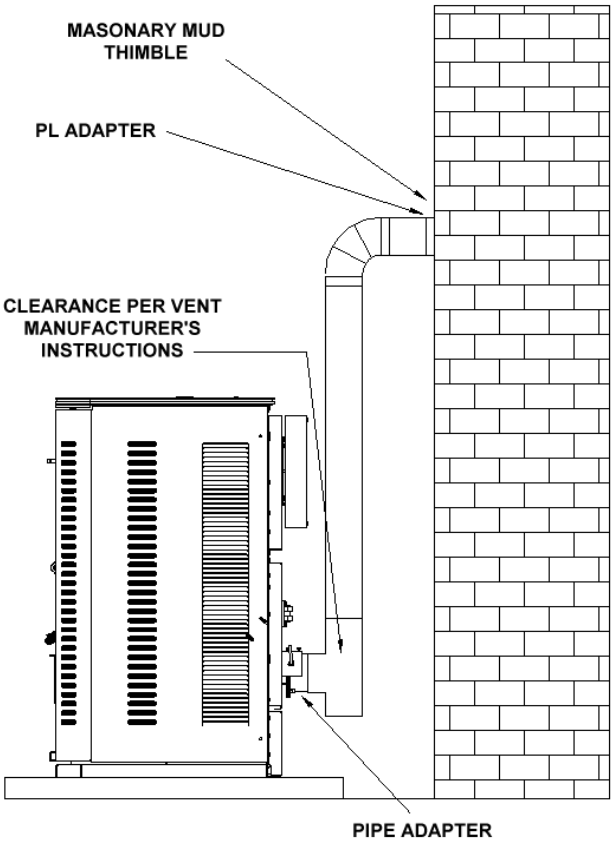


Figure 7
Venting into Masonry Chimney

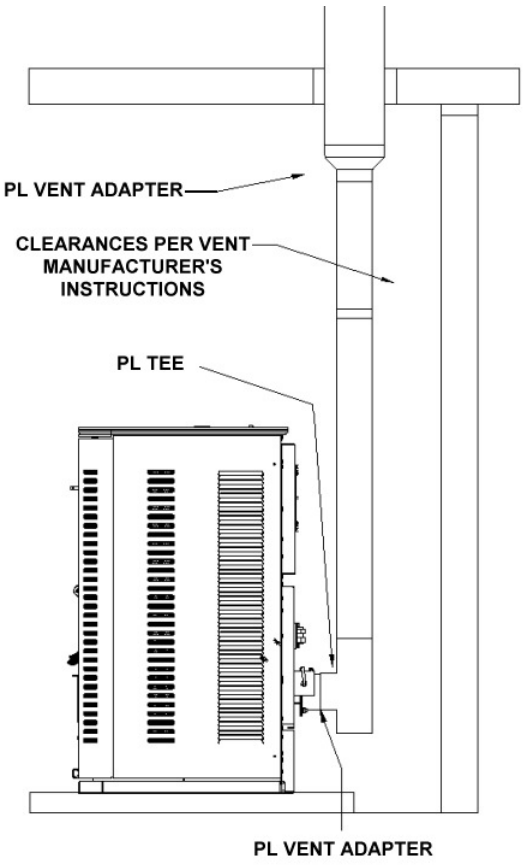
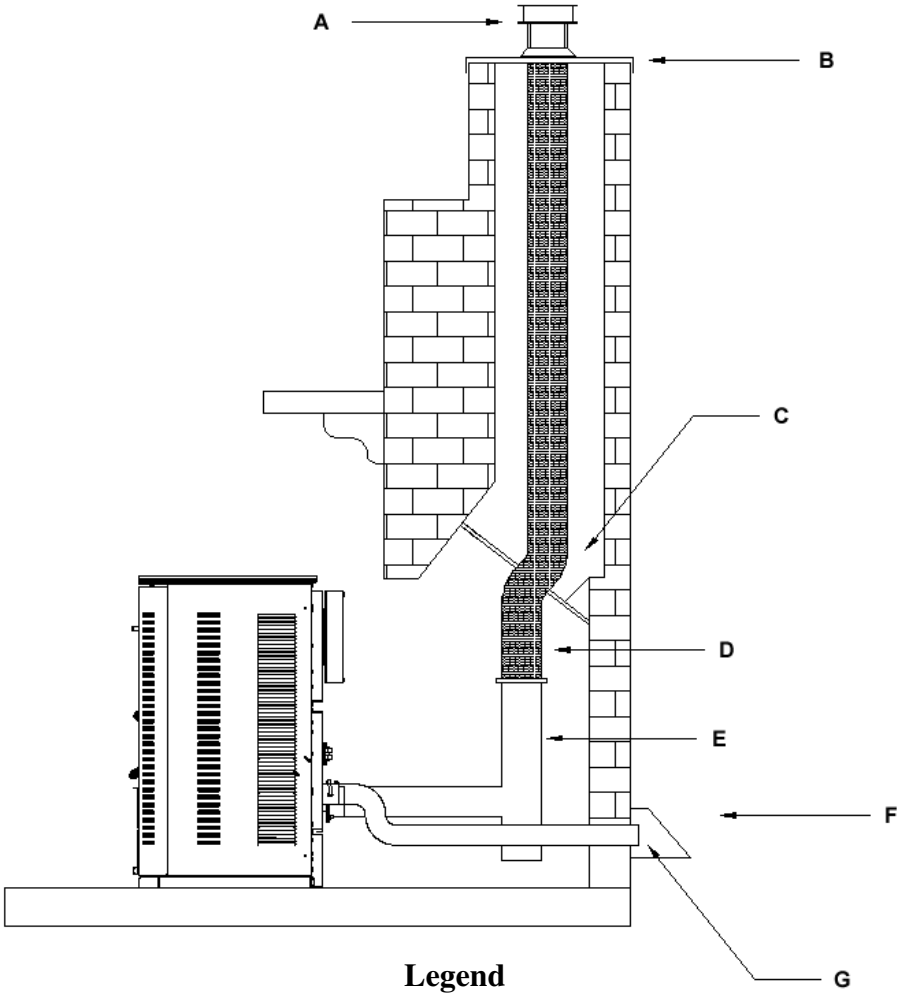


Figure 8
Venting into a Class A Chimney

3. Venting into the side of an existing masonry chimney must be done through a masonry thimble. When wall penetration is necessary to access a masonry chimney, use a listed PL vent wall thimble. (Figure 7).

4. When venting into a Class A steel chimney, use an appropriate PL Vent adapter. (Figure 8)

Hearth Mount



Legend

A – Vertical Cap
B – Chimney Flashing
C – Positive Block Off Plate
D – Stainless Steel Liner / PL Vent System
E – PL Tee or Single Wall Tee
F – Outside Air Shield – May be needed
G – 2” Metal Outside Air Pipe - Optional

Figure 9
Venting to the Top of Chimney

When installing as a hearth mount stove into a fireplace, the unit must either be relined terminating above the chimney chase top, or positively connected to the existing chimney system using a block off plate (C). An approved flex liner or PL vent must be used. **A chimney system with known drafting problems may require a liner, which may also need to be insulated to keep vent system warm in a cold chimney environment.**

FLOOR PROTECTION

The stove must be installed on a Non-Combustible Surface.

Hearth models may be placed directly on the noncombustible hearth of a fireplace.

The Hearth / Non-Combustible pad must extend a minimum of 6" (152 mm) in Front of Unit *and* beyond each side of the Fuel Loading and Ash Removal Opening(s).

Optional Spark Arrestor Pad provided with unit may only be used on a Solid Surface Floor, such as Wood Flooring, Laminate Flooring or Linoleum. Do not use on Carpet.

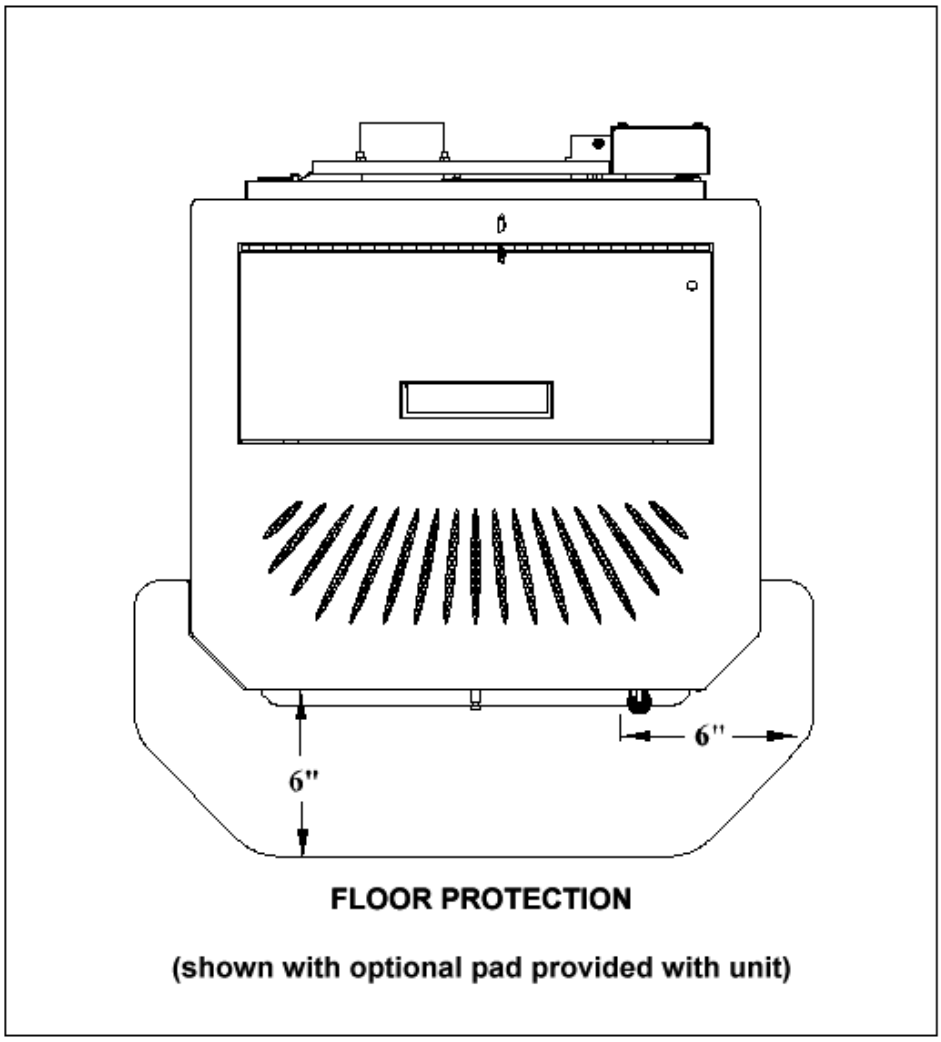


Figure 10
Floor protection
(Top View)

MINIMUM CLEARANCES (INCHES) TO COMBUSTIBLE MATERIAL

Figure(s):	From:	
12, 15	Sides of stove	4”
12, 15	Back of stove	4”
11	Corner of stove	4”
7, 8	Vent pipe	***Per Manufacturer’s Instructions***
13	Stove to mantel	12”
10	Floor protection: Front (from faceplate)	6”
10	Floor protection: Sides & back of stove	0”
14	Alcove: Vertical to Combustibles	16”
15	Alcove: Sides	4”
15	Alcove: Back	4”

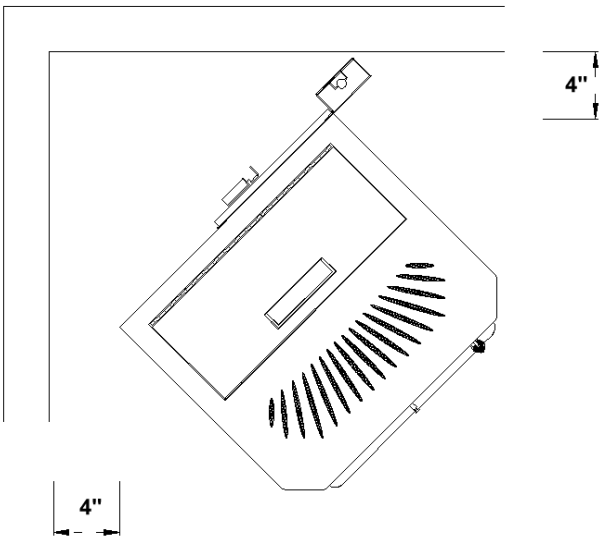


Figure 11 (Top View)
Clearances: corners of stove

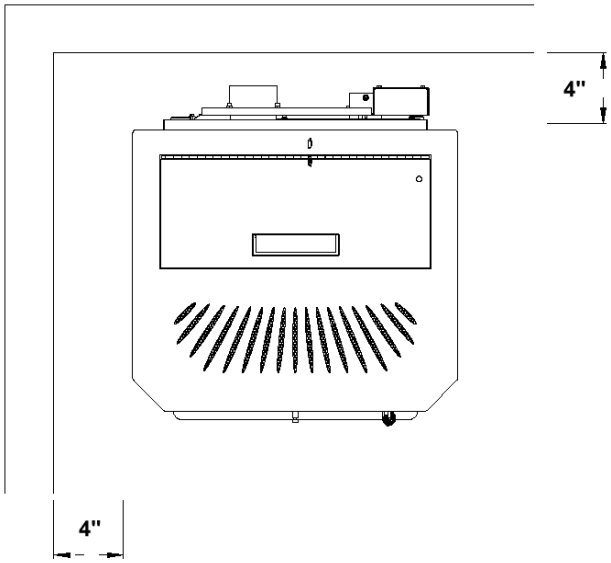
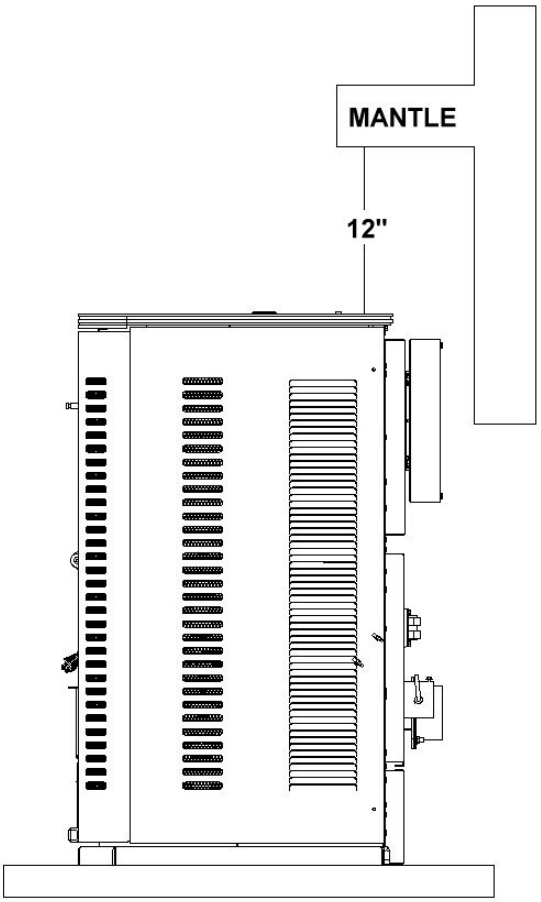
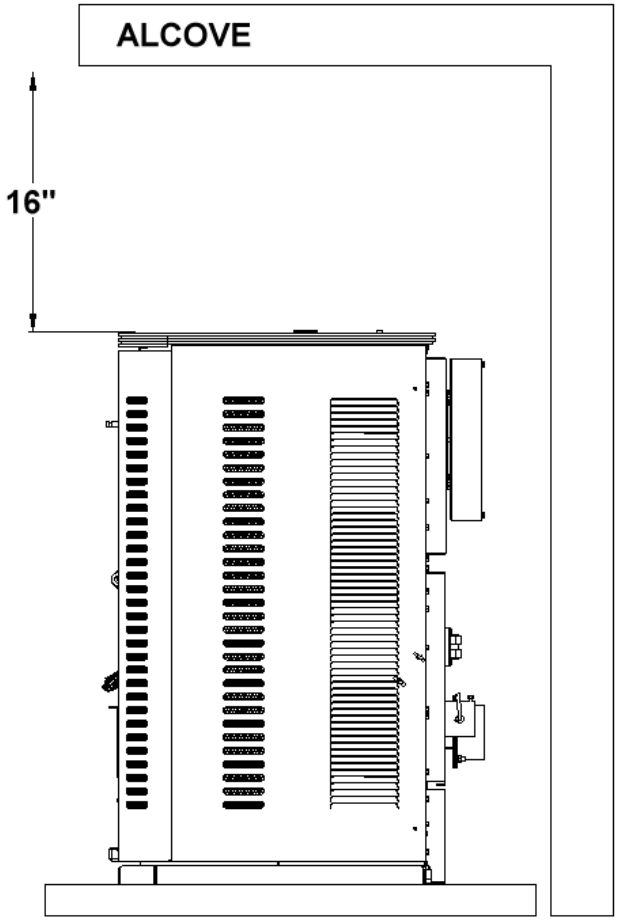


Figure 12 (Top View)
Clearances Sides and Back



Floor Pad and Mantle Clearances
Figure 13



Alcove Installation (Side View)
Figure 14

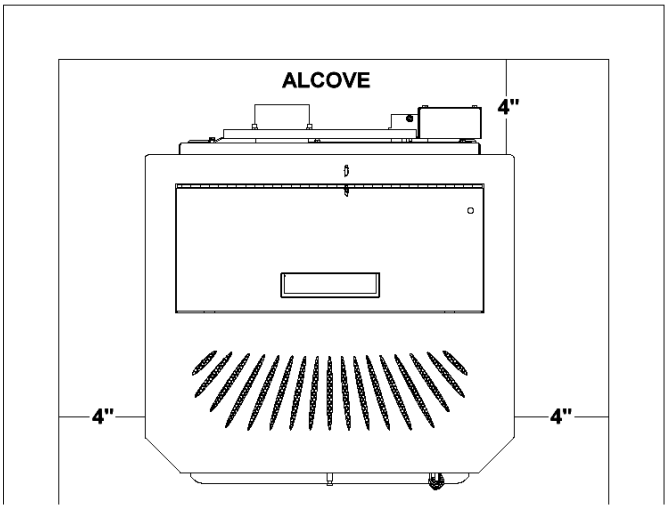
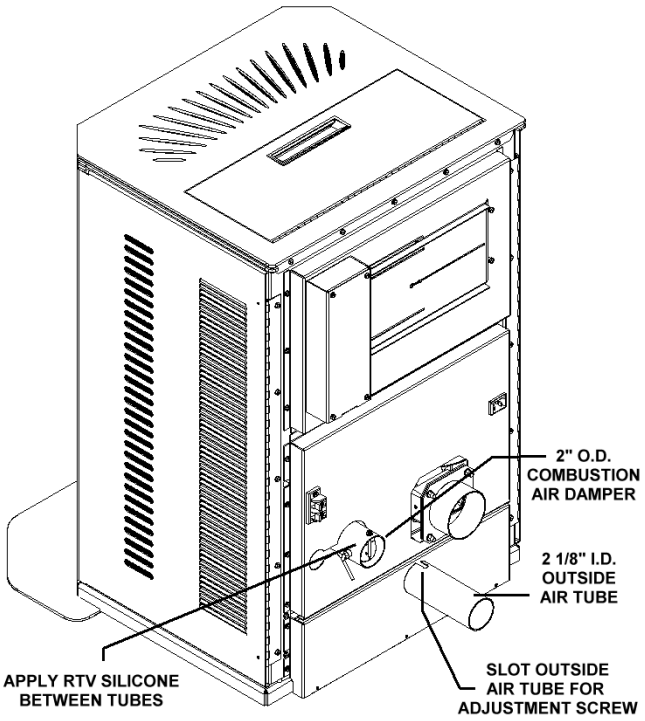


Figure 15
Alcove Installation (Top View)

<u>Although 4“ is the minimum clearance to the sides of the stove, this is not recommended due to the need for access into the inside of the stove for the maintenance, as spelled out in the Operations Manual. Please read the section covering Daily, Periodic and Yearly Maintenance in the Operations Manual.</u>

COMBUSTION AIR

1. Under certain conditions it is recommended that the Element-MF be connected to an outside source of combustion air to improve performance. Flexible metal hose, or rigid metal pipe, (conduit), must be connected around (NOT INSIDE) the combustion air inlet tube. Be careful not to pinch or bend the outside air pipe with too small a radius which may be terminated flush with the outside wall but should be protected from wind and weather by a hood. Note: The outside air pipe must terminate above the maximum snow line.



WARNING

USE THE AIR INTAKE DAMPER FOR ADJUSTING COMBUSTION INLET AIR ONLY! OTHER METHODS OF RESTRICTING OR BLOCKING COMBUSTION INLET AIR ARE STRICTLY PROHIBITED!

Figure 16

2. Outside air may be drawn from a semi-enclosed attic or crawl space or any semi-enclosed space. Take care not to draw cold air past water pipes that may freeze.

3. Increase the outside air pipe diameter to 3” for runs over ten (10) feet and elevation over 4,000 feet. Note: Long runs should be avoided.

4. Terminate the outside air pipe below the exhaust vent outlet.

5. An open mesh screen should be placed over the outside air pipe opening to prevent birds or rodents from nesting in the opening. Use an elbow or shield to prevent prevailing winds from blowing directly into the outside air intake pipe. NOTE: Mesh screen should be no smaller than one-fourth inch (1/4”) by one-fourth inch (1/4”).

WARNING: OUTSIDE COMBUSTION AIR IS REQUIRED FOR ALL MOBILE HOME INSTALLATIONS!

Mobile Home Installation

Unit must be installed in accordance with the:
Manufactured Home and Safety Standard (HUD), CFR 3280, Part 24

Unit may be installed in a Mobile Home, after the initial sale of the Mobile Home. Not for use in Recreational Vehicles.

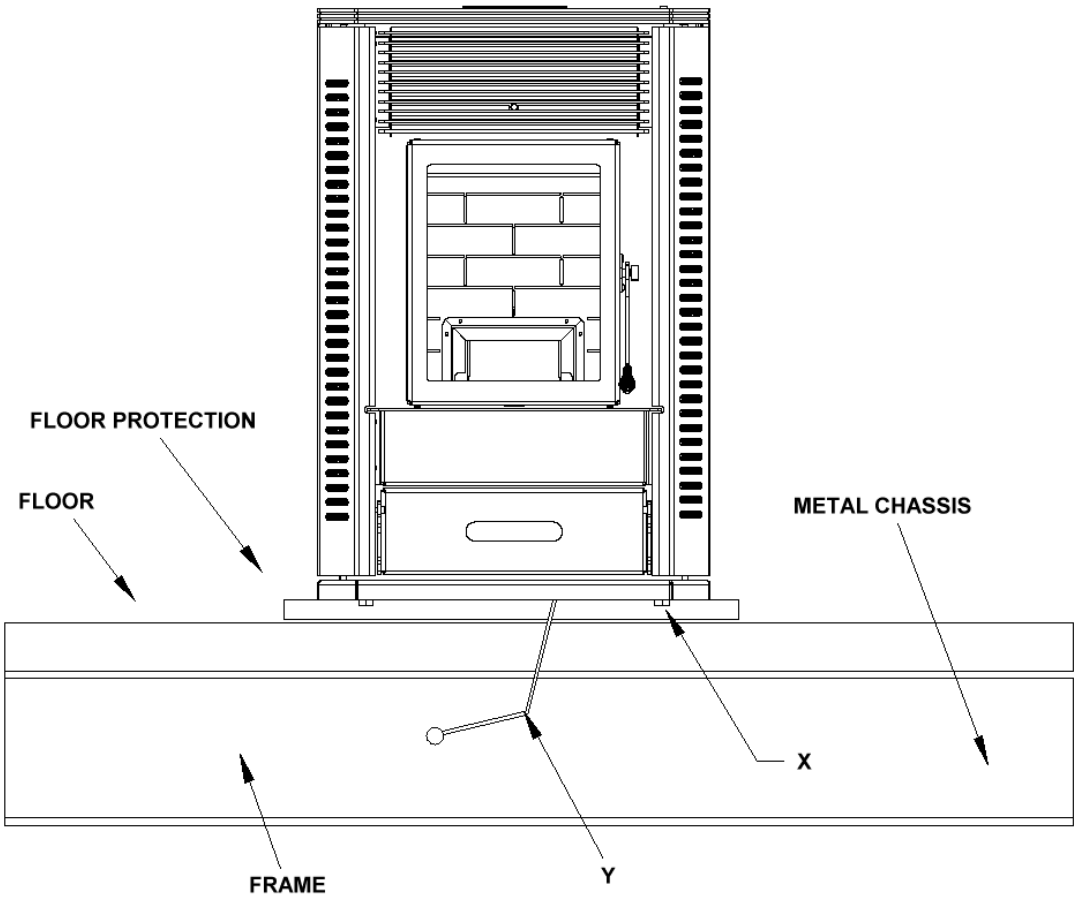


Figure 17

1. WARNING: DO NOT INSTALL IN A SLEEPING ROOM.

2. WARNING: COMBUSTION AIR MUST COME FROM THE OUTSIDE OF THE MOBILE HOME! FAILURE TO DO SO MAY CREATE NEGATIVE PRESSURE WITHIN THE MOBILE HOME AND COULD DISRUPT PROPER VENTING AND OPERATION OF THE PELLET STOVE.

3. CAUTION: THE STRUCTURAL INTEGRITY OF THE FLOORS, WALLS, CEILING AND ROOF MUST BE MAINTAINED.

4. Permanently bolt the stove to the floor, (X).

5. Electrically ground the stove and pedestal to the metal chassis of the home. Use a number eight (8) gauge or larger copper wire, (Y).

6. Maintain an effective vapor barrier at location where PL vent exits the structure.

7. Check any other local building codes or other codes that may apply.

8. Do not use components other than those specified for use with this unit.

9. Floor protection requirements must be followed precisely.

10. PL Vent must be used for exhaust venting. (Single wall vent is not allowed). Follow PL Vent manufacturer's installation directions and observe all listed clearances to combustibles.

USE OF A THERMOSTAT

St. Croix Pellet stoves offer our customers the optional feature of thermostatically controlling your new stove. By using a thermostat to control the operation of your Stove, you can benefit two ways. First of all, after setting the thermostat to your desired heating needs, the stove will operate accordingly to uniformly maintain your desired temperature setting. Secondly, the fuel consumption is being optimized, which ultimately results in lowering your seasonal heating costs.

While the room temperature remains cooler than your desired thermostat setting, the stove will operate at any of the 5 HEAT ADJUST selector positions. Read the Operations manual to determine which Thermostat Mode you want to use. You can choose between Manual and T-Stat Mode. ***Do not use the "SmartStat" Mode. This setting is only for stoves with Igniters.***

1. Once you have successfully lit your stove, set the thermostat to your desired heating needs.

2. Set the HEAT ADJUST selector to a position that will effectively create a rise in room temperature above your thermostat setting. The recommended heat settings while using a thermostat are any position between 2 through 5.

Thermostat Hook-up

Connect the wires from the thermostat to the external wire terminal on the back of the stove (see figure 18 on the following page).

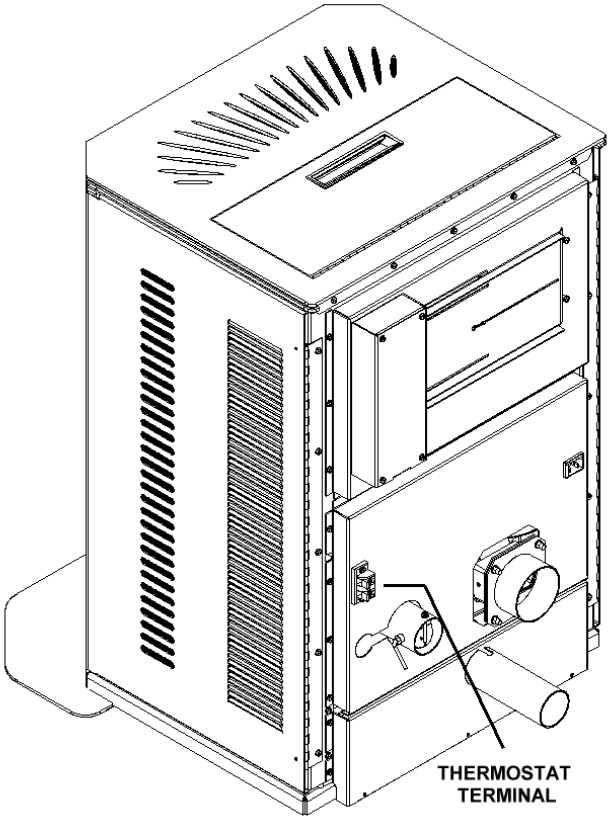
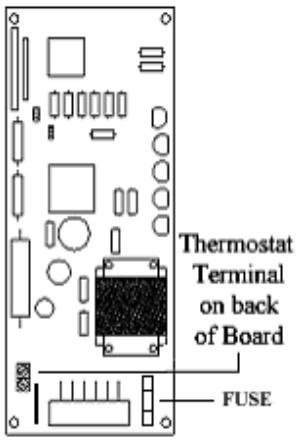


Figure 18

The external Thermostat wire terminal has been pre-wired to the thermostat wire Terminal on the back of the control board (See figure 19)

Figure 19



NOTE: Installers must determine a neutral location of where to mount the thermostat for accurate room temperature measurements.

Element-MF Operation

CAUTION: Operate this unit only with the fuel hopper lid closed. Failure to do so may result in emission of products of combustion from the hopper under certain conditions. Maintain hopper seal in good condition. The auger will be prevented from operating by a hopper lid switch. Close lid immediately after filling hopper with fuel.

INSTALLATION CHECK

Proper installation is essential for Safety, effective Operation, Warranty Coverage, Insurance requirements and to meet Local Building Codes. Installation Requirements are described in the first section of this manual. Verify the installation is correct before firing up the Element-MF for the first time.

When burning corn, wheat or rye, care should be taken in how the venting system is installed. To burn corn, wheat or rye the moisture content should be 15% or less. This is much higher than the moisture content of wood pellets and can result in condensation forming in the venting system in certain installations. The chimney system should stay within the warm envelope of the house as much as possible. Only penetrate the exterior of the home where the exhaust system will terminate.

REMEMBER: Condensation from burning Corn, Wheat, Rye or Distillers Grain Pellets is detrimental to the venting system. Only buy Venting Systems that are warranted with burning corn.

PREVENTING CHIMNEY FIRES

Chimney fires can be prevented by properly operating the Element-MF and by periodic inspection and cleaning of the chimney. When wood is burned it produces tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue associated with a slow burning fire. As a result, creosote residue accumulates on the flue lining. When ignited, this creosote can result in an extremely hot chimney fire.

The chimney and chimney connector should be inspected at least once every two months during the heating season to determine if a creosote build-up has occurred. If a significant layer of creosote has accumulated (3 mm or more) it should be removed to reduce the risk of a chimney fire. Use of an appropriately sized chimney brush or the services of a professional chimney sweep are recommended.

The chimney and chimney connector should be inspected at least once every two months during the heating season to prevent the system from getting plugged with Fly ash. Clean the exhaust system if needed. Use of an appropriately sized chimney brush or the Services of a Professional chimney sweep are recommended.

ELEMENT-MF APPROVED FUELS

SHELLED CORN

Shelled corn must be 15% or less moisture content. The keys to satisfactory performance are: proper operation of the stove, diligent maintenance and burning only dry, clean, quality corn. Corn dust must be screened prior to using.

NOTE: Corn with excessive grain dust must be screened, by sifting with 3/16" mesh screening. Large pieces of cob may plug the auger.

Clinkers and Ash are by-products of burning corn and are not caused by your stove. Stove performance can be quickly and severely reduced if poor quality corn is used. Contact your dealer for more information on where to get high quality corn to burn in your new corn stove.

Store corn in a tight container use other methods to ensure they do not become rain soaked or absorb moisture from damp or wet floors. This will also prevent rodents from becoming a problem. Do not store corn within stove installation clearances or within the space required for clinker removal.

The stove is not warranted against damage caused by poor quality corn, incorrect operation, poor maintenance or incorrect installation.

PELLETS - Contact your dealer for more information on PFI approved wood pellet fuel.

The Element-MF comes equipped with a Multi-Fuel burn pot installed that has ***Removable Side Shields***.

The side shields can be removed to clean the pot. This gives better access to clean the holes in the pot.

The shields lift up and are removed without needing any tools.

The Element-MF is not warranted against damage caused by using poor pellets, incorrect operation, improper maintenance or incorrect installation.

CHERRY PITS - No Standard exists for Cherry Pits used as Fuel. ***Inspect fuel before buying.***

DISTILLER'S GRAIN PELLETS - No Standard exists for Distillers Grain used as Fuel. ***Inspect fuel before buying.***

Distiller's Grain is a byproduct of producing Ethanol and has higher oil content than corn itself. Due to this the stove may require more frequent cleaning. Soot may rapidly form in the exhaust system if the air is not set properly. Check the exhaust frequently when burning Distiller's Grain pellets.

WHEAT - No Standard exists for Wheat used as Fuel. ***Inspect fuel before buying.***

Wheat is a small grain and burns in a similar manner as corn. It forms a clinker in the burnpot that is tends to stick to the sides of the pot. The Clinker may need to be pushed into the Ashpan using a long narrow screwdriver or a similar tool, if it sticks while dropping the Clinker.

Since Wheat is a small lightweight grain, extra residue will blow out of the burnpot as it burns. If an excessive amount seems to be blowing out of the pot, adjust the damper by closing it a small amount at a time. *(Read the section covering the Combustion Air Damper on pages 36 - 39)*

RYE - No Standard exists for Rye used as Fuel. ***Inspect fuel before buying.***

Rye is a small grain and burns in a similar manner as corn. It forms a clinker in the burnpot that is tends to stick to the sides of the pot. When dropping the Clinker it may need to be pushed into the Ashpan using a long narrow screwdriver or a similar tool.

Rye is also a small lightweight grain; extra residue will blow out of the burnpot as it burns. If an excessive amount seems to be blowing out of the pot, adjust the damper by closing it a small amount at a time. *(Read the section covering the Combustion Air Damper on page 36 - 39)*

PRE-LIGHTING INSTRUCTIONS

FOLLOW THESE OPERATING INSTRUCTIONS EXACTLY AS STATED TO ENSURE SAFE AND RELIABLE OPERATION.

1. Carefully read this “Operation and Maintenance” manual in its entirety BEFORE lighting your Stove for the first time.

2. Obtain final inspection and approval of installation from local building officials.

3. Have your dealer demonstrate all the operational and maintenance steps necessary for proper use of the Element-MF. **Sign and return the warranty card** to the address listed on the back page.
4. Some odors may be given off during the first few hours of burning during initial break-in. These odors are normal and not harmful. However, ventilating the room until the odors disappear is recommended.

5. The Element-MF will become HOT while in operation. Keep children, clothing and furniture away from all hot surfaces.

WARNING: **Direct contact with the firebox during operation may cause skin burns.**

6. To avoid the possibility of smoke and/or sparks entering the room always keep firebox and ash pan doors closed whenever the Stove is operating.

7. A certain amount of carbon monoxide may be produced within the Multi-Fuel Stove as a by-product of combustion. All exhaust vent connections must be sealed with **RTV silicone** to assure a gas tight seal. **Any leaks into a confined area caused by faulty installation or improper operation of the Element-MF could produce dizziness, nausea and in extreme cases, death.**

8. Under certain circumstances an outside source of combustion air may be needed and is required on all mobile home installations. If room air is used to supply combustion air, room air starvation, operation of exhaust fans and icing of air vents can adversely affect proper operation.

9. Smoke detectors, installed in the same general area as the Element-MF, may be activated if the Stove door is left open and smoke is allowed to enter the area.

CAUTION: NEVER ADD FIRE STARTER TO A HOT STOVE.

CAUTION - Hot Surfaces
- Keep Children away.
- Do not touch during Operation.

WARNING: - Risk of Fire.
-Do not operate with the Firebox door or Ash Removal doors open
-Do not store Fuel or other Combustible material within marked Installation Clearances.
-Inspect and Clean Flues and Chimneys regularly.

DANGER: -Risk of Fire or Explosion
-Do not burn Garbage, Gasoline, Drain Oil or other Flammable Liquids.

WARNING: The Auger can start at any time while the Element-MF is running

CAUTION: -The Coal Rake must be pulled out and the Slide-Out Bottom pushed in to operate the Element-MF. (See Figure 25 on page 42)

Changing the program on the Control Board - The Control Board has 4 separate programs. Programs are specific to the style of Burn Pot System in the stove. Before lighting the Stove for the first time, be sure the correct program is chosen. To change the program on the board, the Stove must be off and the unit must be cold. The programs are identical in operation, except for the Cycle Time. The Cycle time is the total of the ON Time & OFF Time added together. The ON Times are constant, so this means that the OFF Time is increased or decreased, depending on the program chosen.

1 - **Program 1.** The Cycle Time is 11.5 seconds. This program will be the Default program when the Element-MF is first plugged in. ***This program does not offer self ignition***. This program is for use with **Pellets, Corn, Wheat and Rye, Cherry Pits & Distillers Grain Pellets.** ***(See figure 20 below).***

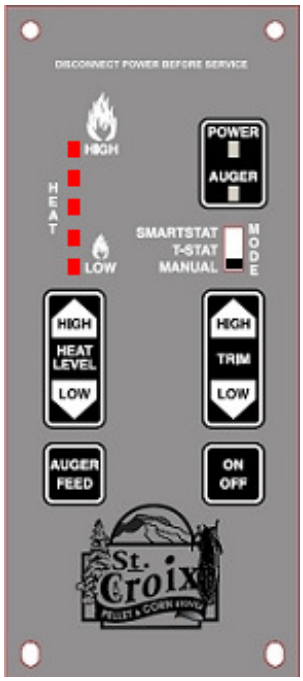
2 - **Program 2.** The Cycle Time is 13 seconds. ***This program does not offer self ignition***. This program is for use with **Pellets, Corn, Wheat and Rye, Cherry Pits & Distillers Grain Pellets.** ***(See figure 20 below).***

3 - **Program 3.** The Cycle Time is 11.5 seconds. THIS PROGRAM IS ONLY TO BE USED WITH THE ELEMENT-P MODEL. ***(DO NOT USE THIS PROGRAM WITH THE ELEMENT-MF).***

4 - **Program 4.** The Cycle Time is 10 seconds. THIS PROGRAM IS ONLY TO BE USED WITH THE ELEMENT-P MODEL. ***(DO NOT USE THIS PROGRAM WITH THE ELEMENT-MF).***

As the Cycle Time increases, the Feedrate decreases. If the ***incorrect*** program is chosen for a specific fuel, the burnpot will overload. Use caution when using this feature. ***The default program to use with the Element-MF is Program 1***. Program 2 is for "Tweaking" the unit for different fuel and installation conditions.

To change the program, the Stove must be in the OFF position, the unit must be cooled down so the Proof of Fire disc is open and the Thermostat Slide Switch must be in the Manual mode. *(See figure 20 below)*



Press & hold the Auger Feed Button, then press the Trim ***High & Low*** Button at the same time. The 5 LED lights - that indicate the heat levels - will flash. The number of times the lights Flash will indicate which program is running.

Program 1 – LED lights flash *once*

Program 2 – LED lights flash *twice*

Program 3 – LED lights flash *three times*

Program 4 – LED lights flash *four times*

Figure 20

Control Board Features

The Control Board controls all functions of the Element-MF by monitoring the sensors in the system. These sensors serve 2 purposes.

a. General Operation of the Stove.

b. Safety Features, to shut the unit down in the event the sensors detect a problem in the unit.

The Control Board also has Diagnostic Capabilities to help in diagnosing 3 areas in the Multi-Fuel Stove. These areas are:

1. High Temperature Limit.
2. Proof of Fire Sensor
3. Vacuum in the Firebox
4. Fuel Level in the Burn Pot

A closer look at the Control Board in figure 21 will explain how the board works. There are essentially 4 buttons on the control board. Two of these buttons, the **Heat Level** and **Trim** Buttons, have a High/Low side to advance these settings up or down. There is a **Slide Switch** that controls the Thermostat Mode and an **LED Light** bar that indicates which of the 5 Heat Settings the Element-MF is running on.

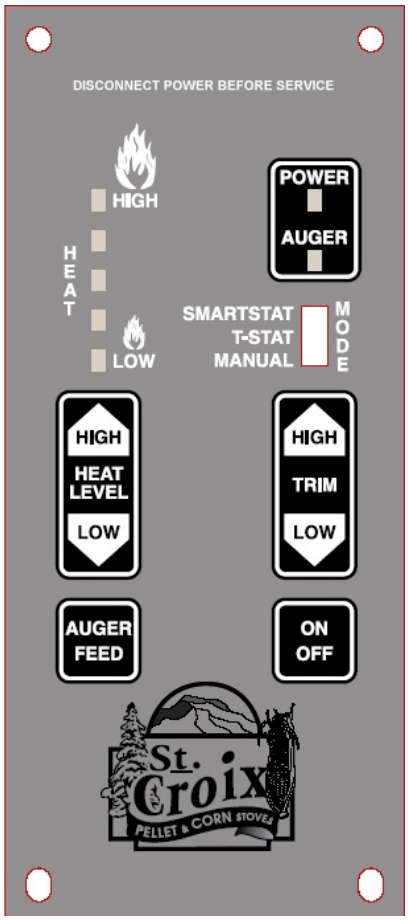


Figure 21

The LED Light bar is also used during the Diagnostic process, see pages 33-35 for more details

1. The On/Off button not only turns the Element-MF On and Off, ***it also resets the board if one of the sensors has detected a problem and the board is flashing a Diagnostic code***.

2. The Auger Feed button will allow the user to manually auger fuel into the burn pot on start up when needed. This is particularly helpful in priming the Auger Tube when it is empty (After the hopper has run out of fuel). This button is also used to make small

adjustments to the combustion air and the feed rates as part of the **Fine Tuning** process of the control board.

3. The Heat Level button changes the Heat Level up and down between level 1 and 5. It will also be used in the Fine Tuning process of the feed rates if needed.

To adjust the Feed-rates:

Press and hold the Auger Feed Button, then press the Heat Level High ***or*** Low button. This will change the ON Time *up or down* .25 seconds from the factory setting. Watch the LED lights to see the setting is on (it will flash the new setting). This new setting will stay in memory. The LED lights indicate the level of adjustment. The factory setting is the center LED light. This gives two .25 second adjustments up and two .25 second adjustments down.

5. The Trim button is used to adjust the Exhaust (Combustion) fan voltages up or down to allow **fine-tuning** of the combustion air. The LED lights indicate the level of adjustment and the factory setting is the center LED light. This gives 2 adjustments up and 2 adjustments down.

To adjust the Combustion Fan voltages:

Press and hold the Auger Feed button, then press the Trim High ***or*** Low button. This will change the fan voltage approximately 2.5 volts up or down from the factory setting. Watch the LED lights to see the setting is on (it will flash the new setting). This new setting will stay in memory from this point on. **Use these adjustments in conjunction with the damper.**

5. The Thermostat Slide Switch allows the Stove to be run in 3 different Modes:

   a. **Manual Mode**. The Control Board controls all functions of the Element-MF.

   b. **T-Stat Mode**. The Multi-Fuel Stove is hooked to a Thermostat and when calling for heat the Element-MF will advance to the Heat level set at the Control board. Once the Heat demand has been met the Stove will drop to the #1 Heat Level setting and pilot. The Stove never shuts off and provides constant heat.

   c. **SmartStat Mode*. Do not use this setting with the Element-MF.*** *This Thermostat mode may only be used with Pellets & Cherry Pits in a unit with the Versa Grate System & Igniter installed*

Lighting Your Stove - Multi-Fuel Burn Pot (Program 1 & 2).

1. Make sure there is fuel in the hopper.

2. Add one cup of **Pellets** to the burn pot. Add a generous amount of starter gel to the pellets. Do not try to start your stove with corn or other small grain; Grain is difficult to start.

3. This next item is optional, but it will give an immediate boost to the start up procedure. Crumple up half of a newspaper page, light the gel and toss the paper in the burn pot.

4. Close the door and push the On/Off button on the control board. (*See figure 21 on page 30)*

5. Set the controls to Heat Level #1

6. ***Once the Proof of Fire switch locks in and the Power LED quits blinking, adjust the heat level to the desired level.***

The Start up Program works as follows:

a. The Combustion Fan comes on at high speed and the control board checks to make sure the Vacuum switch locks in. (See section on Diagnostic features on pages 33-35)

b. When the Control Board senses the Vacuum switch the Exhaust Fan drops to a lower start up speed until the Proof of Fire Switch locks in.

c. After 5 minutes the board checks for "Proof of Fire" and automatically starts feeding Fuel on the #1 setting. If the board senses P.O.F. then the stove has started successfully.

d. If the board fails to sense P.O.F. after 5 minutes it will repeat the last step and continue feeding fuel on the #1 setting for 5 more minutes.

e. The board will check for P.O.F. again. If the board still fails to sense the Proof of Fire switch the stove will go into "Safety shutdown" (See section on Diagnostic Features on pages 33-35).

If stove fails to start, repeat steps 2 through 6 listed above.

CAUTION: NEVER ADD FIRE STARTER TO A HOT STOVE.

Shutting the Unit Off

1. Press the On/Off switch once; the lights will go off and the fire will go out in a few minutes. The board essentially goes into "Safety shutdown".

2. As long as the temperature within the Element-MF remains above 110°F both Fans will continue to run. When the P.O.F. switch drops out, the room fan shuts off and the Combustion fan will run for another 10 minutes and finally shut down completely.

3. NEVER unplug the Multi-Fuel Stove to shut it off. Doing so may cause a significant amount of smoke to enter the room.

Diagnostic Features and Safety Sensors.

The #2 LED, #3 LED, #4 LED and #5 LED lights on the LED Light bar will flash to give a diagnostic code to help in diagnosing problems that may occur. *(Read Frequently Asked Questions for more information)*

These conditions fall into 3 categories:

a. Heat related issues.

b. Vacuum related issues.

c. Plugged Stove issues.

The Diagnostic Lights flash as follow:

1. **The Vacuum switch**. For the Stove to operate correctly the firebox needs to be sealed. During the first 30 seconds after the unit has been turned on, the control board will check to see if the switch senses negative pressure (Vacuum) in the firebox of the Stove. If there is no negative pressure, the Stove will go into "Safety shutdown" and the #2 LED will start blinking. *(Read Frequently Asked Questions for more information)* A 60 second delay has been incorporated before the unit shuts down when the board senses loss of vacuum. This is to accommodate opening the doors during maintenance. Once the board senses loss of vacuum, the ON/OFF light will start blinking. While the light is blinking the control board will not feed any fuel nor respond to any of the buttons. Once Vacuum has been restored the unit will revert back to normal operation.

2. **The Proof of Fire switch.** This switch will sense the temperature of the Exhaust rising during start up. If the Exhaust temperature does not reach 110 degrees F, or if during use, the temperature drops below 110 degrees F, the Stove will go into **"Internal Alarm"** and the Auger will quit feeding fuel. Once the Stove completes the safety shutdown the #3 LED will start blinking. *(Read Frequently Asked Questions for more information))*

3. **The High Limit switch**. This sensor will sense if the unit reaches temperatures that are too high for normal operation. If this happens the Auger will quit feeding and the #4 LED light will start blinking. *(Read Frequently Asked Questions for more information)*

4. **The SmartScan Maintenance Sensor** - Patent Pending**.** This sensor monitors the burn pot area inside the firebox. If it senses Maintenance issues within the stove, that cause improper burning conditions in the firepot, the unit will shut down and flash a #5 LED.

Check all Maintenance areas of the stove and the venting system for any conditions that can cause improper burning, such as, gaskets, door latch, ash pan latch, ash traps, ash clean out covers, plugged vent, plugged vent caps etc.

St Croix SmartScan Maintenance System **- "Pre-emptive Monitoring"** is an innovative way of detecting when the unit is burning incorrectly.

The following situations can affect the way a Pellet Stove burns: ***Operator Error, Poor Fuel Quality, a Plugged Venting System, a Plugged Stove, a Dirty Burn Pot, Worn Door Gaskets, Worn Glass Gaskets or Weak Combustion Fan.***

How does it work? - The area monitored is ***inside the Firebox/Burnpot*** area, directly above the back edge of the burn pot.

The SmartScan Infra Red sensing system is very accurate. The monitoring takes place from a remote location; it can sense an object as small as ***one pellet*** *and does not depend on sensing temperatures. Temperature sensing is difficult at this location, because it monitors an area that fluctuates between extremely hot temperatures during High Burn and lower temperatures in the pot during Low Burn.*

By monitoring this area, the stove will shut down when conditions in the Burn Pot fall outside of the Normal Operating range. Shutting the unit down when fuel reaches this level, will trigger a diagnostic code that notifies the operator that the stove needs maintenance. The above list is intended as a guide to determine where the problem may be.

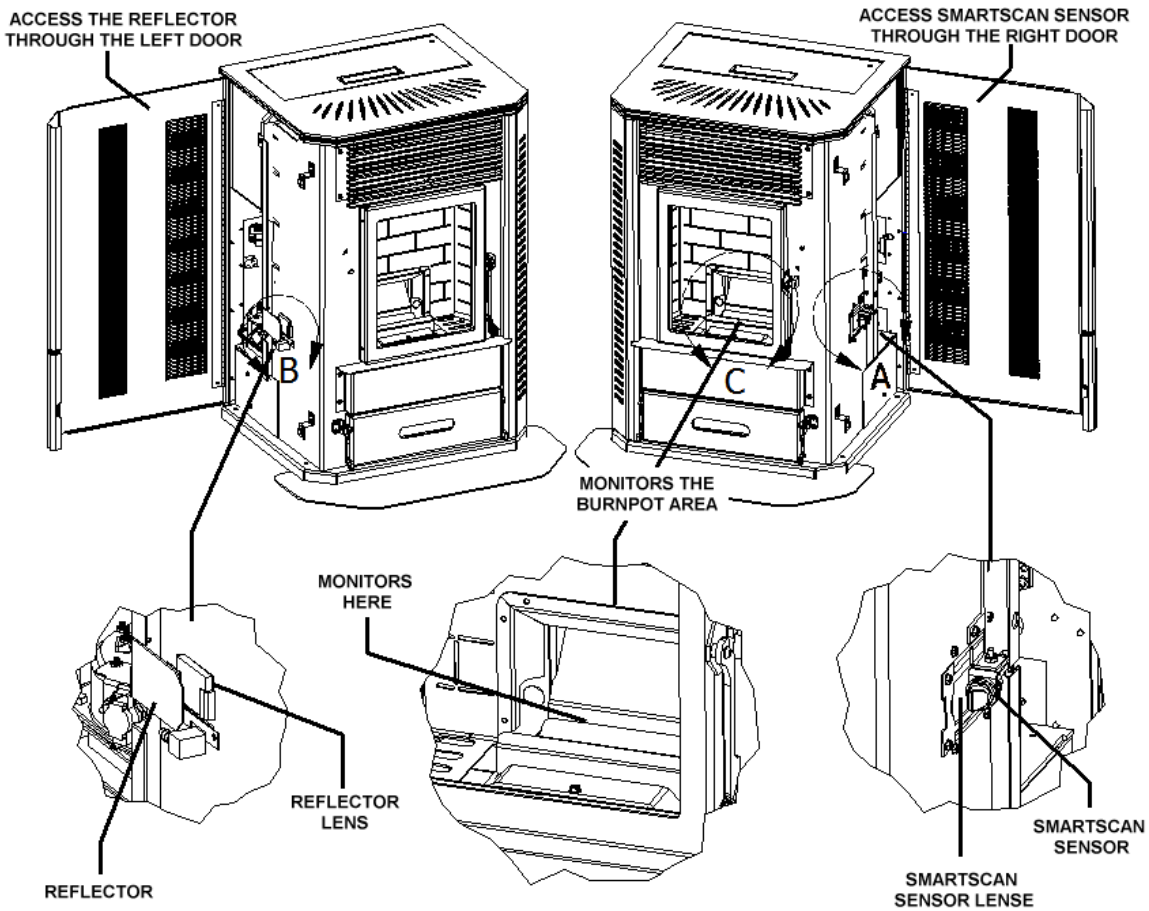


Figure 22

Figure 22 shows the location of the SmartScan components. Opening the right side door will give you access to the Infra Red Sensor and the viewing lens on that side of the stove. With the stove plugged in, you know the Sensor is functioning if you see that the small Yellow LED is on. This means the light beam is projected across the stove to the left side where the Reflector is located and reflected back to the sensor without any obstruction in between.

Occasional cleaning of the lens will be needed. The lens easily slides out of the bracket for cleaning. The sensor may also be cleaned, by gently wiping the lens of the sensor with a soft cloth. ***Never clean the sensor using alcohol. Do not move the Sensor as this may knock the Sensor out of alignment.***

Opening the left side door will give you access to the Reflector and the viewing lens on the left side of the stove. Occasional cleaning of the lens will be needed. The lens easily slides out of the bracket for cleaning. The Reflector may also be cleaned, by gently wiping the reflector with a soft cloth.

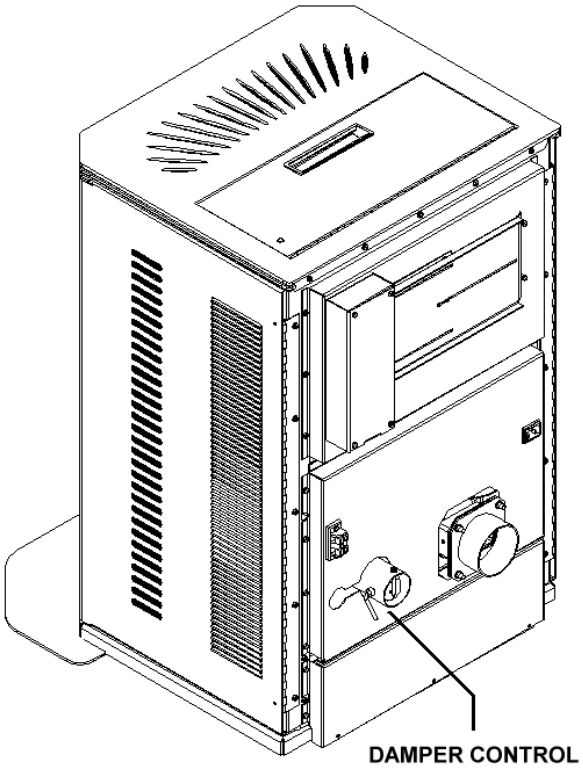
5. **Hopper Lid Switch.** The hopper lid switch will shut off the auger motor when the hopper lid is open. Be sure the lid closes completely when refilling the hopper or the unit will shut down. ***This switch does not trigger a Diagnostic Code.***

"Internal Alarm" - When the control board becomes unresponsive, the control board is in Internal Alarm. The control board has sensed one of the Safety sensors. This may cause the unit to go out and flash a Diagnostic Code. In some cases, after waiting approximately 45 seconds the Stove will start responding to the control board again. Many times, the cause of this is a change in the vacuum inside the firebox. This may be caused by excessive wind or by opening the Firebox door. The control board will monitor the vacuum switch and resume normal operation if the vacuum returns to normal.

"Power Reset" - If the board becomes unresponsive for a long period of time, you must unplug the Stove, wait 10 seconds and plug the unit back in to reset the board.

WARNING: The Stove has been Safety Tested by an accredited, independent laboratory. These safety features are designed to protect life and property. Bypassing these features voids all warranties and the safety listing of the Furnace.

Combustion Air Damper



Do not neglect to adjust the Combustion Air damper during the break in period of your new Stove *(See Figure 23 to the left).* Your Element-MF Stove is equipped with an air inlet damper. The purpose of this damper is to adjust combustion airflow to match the characteristic of each specific air inlet and chimney configuration. The damper will most likely only need a small adjustment during the break in period. To know if the damper needs adjusting, you must observe how Corn, Wheat, Rye Distillers Grain, Cherry Pits or Pellets burn in the Multi-Fuel Burn System.

Figure 23

The damper on your Element-MF has been preset at the factory using a setscrew. This is the starting point for adjusting the damper.

Once the Element-MF has been lit for the first time, the damper will need to be adjusted. The process is different for Corn, Wheat, Rye, Distillers Grain Pellets than Pellets & Cherry Pits. This may take some time, so please be patient during this process. After the damper has been adjusted to the unique installation in your home, the control board automatically increases the Combustion Fan Voltage every time the feed rate is advanced on the control board. This minimizes the need for additional damper adjustments.

Terminology used when burning Corn, Wheat, Rye or Distiller's Grain.

1. **Balanced** burn pot. This means the rapidly turns into red-hot coals once it is in the burn pot.

2. **Lag time**. This is the time it takes for the Corn, Wheat, Rye or Distillers Grain to start burning and become balanced in the burn pot. These fuels will tend to stick together in a clump in the burn pot if the fuel feeds in faster than it's burning.

2. **Overloaded** burn pot. Once the fuel has formed a clump in the burn pot, the pot will overload and slowly put the fire out.

When burning Corn, Wheat, Rye or Distillers Grain the burn pot should be **"BALANCED**". This means the fuel that is being augered into the burn pot rapidly turns into glowing coals. If you see a lot of unburned fuel in the pot, an adjustment may be needed. In an unbalanced pot the corn, wheat or rye will quickly stick together and prevent the proper flow of combustion air. The pot will overload and the fire will go out.

Procedure for Adjusting the Damper when burning Grain:

To make adjustments to the damper use the setscrew in the Damper Tube. Turn the screw in ½ turn at a time to close the damper. Open the Damper Control by turning the setscrew counter clockwise ½ turn at a time. ***Use the Damper Handle to place the Damper against the screw to open the Damper.*** Wait 5-10 minutes after an adjustment has been made to allow the fuel in the pot to equalize before making another adjustment. Additional Voltage adjustments can be made at the Control Board if needed.

a. Once the Element-MF is burning, leave the control board on the #1 setting for ½ an hour. This will allow the unit to warm up before any adjustments to the damper are made. After ½ an hour, look in the burn pot to see if the burn pot is balanced. Unless there weren't enough coals in the pot when the fuel started feeding into the pot, the unit should be burning fine and an adjustment is most likely not needed.

b. Advance the heat setting to #2 and let the Stove burn at this setting for ½ an hour. Check the burn pot to see if it is balanced. Most likely the unit will be burning fine at this point.

c. Advance the heat setting to #3 and let the Stove burn at this setting for ½ an hour. Check the burn pot to see if it is balanced. **Remember:** Look at the coals in the pot, not at what the flame looks like. Most likely the damper will not need to be adjusted.

d. Advance the heat setting to #4 and let the Stove burn at this setting for ½ an hour. Check to see if the pot is balanced. This is where a damper adjustment ***might*** need to be made. As the heat setting reaches the higher settings, the **"Lag time"** can become too long if the air isn't adjusted correctly. If you notice that the coals are being covered up with unburned fuel and the pot seems to be overloading, ***open the Damper Control by turning the setscrew counter clockwise ½ turn at a time. Use the Damper Handle to place the Damper against the screw to open the Damper.*** You might need to use a screwdriver to break up the clump of Fuel in the burn pot to allow for proper airflow. Wait 15 minutes to see if the burn pot becomes balanced. Repeat this step as many times as needed until the burn pot becomes balanced.

e. Advance the heat setting to #5 and let the Stove burn at this setting for ½ an hour. Check the burn pot to see if it is balanced. A small damper adjustment might need to be made at this time to make sure the "**Lag time"** isn't too long.

Remember: Wait 15 minutes to see if the burn pot becomes balanced. Repeat this step as many times as needed until the burn pot becomes balanced.

If the damper seems to be set correctly for level 5, but there seems to be too much air for the lower settings, then adjust the combustion fan voltages by using the control board. *(See Troubleshooting & Frequently Asked Questions Section in the back of the manual for more information.)*

If the Element-MF has been connected to an existing Chimney system that has good natural draft, the procedure mentioned in the last 2 points above may actually require that the damper gets closed slightly instead of opened. This compensates for the additional draft in the chimney system. The Trim button to adjust the Combustion Fan voltage down can also be used.

The process of adjusting the damper when burning Corn, wheat or rye will take about 3 hours, but it only needs to be done once at the initial burn. This will adjust the unit to the unique venting circumstances of your installation.

If your unit develops problem burning properly after using the unit for a while, first check to see if there is a change in the fuel you are burning. The moisture content of your corn, wheat or rye may be too high or the quality of the pellets you are burning may have changed. If the stove is dirty, clean it before adjusting the damper.

Procedure for Adjusting the Damper when Burning Pellets:

When burning Pellets make sure to check for the formation of creosote in the unit and venting system; constantly running the stove on a low setting with too much combustion air may cause creosote to form. Burn pot temperatures can be "too cool" when burning on low with too much draft. ***(Read "PREVENTING CHIMNEY FIRES" on Page 25)***

a. If a *heavy* black shiny build (difficult to wipe off) up is noticed (on the glass and inner surfaces) after the unit runs on the low (pilot) setting for extended periods of time, the damper must be closed some. This may only show up after the Stove has run in pilot mode for an extended period of time before it becomes noticeable. If this build up occurs, close the damper more. Some build up is normal and may be removed during the maintenance schedule.

b. Once the adjustment has been made for the pilot setting, slowly advance the Control Board to the #5 Heat Level and observe the flame. If black soot (wipes off easily) builds up on the glass and black smoke is visible at the tips of the flames, ***open the Damper Control by turning the setscrew counter clockwise ½ turn at a time. Use the Damper Handle to place the Damper against the screw to open the Damper.*** Wait 5–10 minutes before attempting another adjustment. An occasional wisp of black smoke is normal every now and then.

If the damper seems to be set correctly for level 5, but there seems to be too much air for the lower settings, then adjust the combustion fan voltages by using the control board. *(See Troubleshooting & Frequently Asked Questions Section in the back of the manual for more information)*

If the Element-MF has been connected to an existing Chimney system that has good natural draft, the procedure mentioned in the last 2 points above may actually require that the damper gets closed slightly instead of opened. This compensates for the additional draft in the chimney system. The Trim button to adjust the Combustion Fan voltage down can also be used.

Thermostat Control & Pilot Settings

The Element-MF may be controlled with a thermostat to help maintain a more constant temperature. A stove burning Corn, Wheat, Rye, Distillers Grain, Cherry Pits or Pellets will be a little slower in reacting to a thermostat than the typical Gas or Electric stove. With this in mind, the low setting can be adjusted to increase or decrease the amount of fuel used. This will allow the heat output to be matched to the size of the home. A larger home will require more heat than a small one. Keep in mind that the Stove is constantly producing some heat that helps heat the home while it is in pilot mode. If the home seems too warm, and the Thermostat is never calling for heat, a lower pilot setting may be a better fit for the home. ***(Read point 3 on page 31 for adjusting the feed rates on the low setting).***

Remember: Choosing a lower Pilot setting may require the Draft Fan Voltage or the Damper to be fine-tuned to match the lower feed rate. Monitor how the Element-MF is operating after a change is made and adjust the damper or Combustion Fan voltage if needed.

If you experience problems adjusting the Element-MF during the Break-In Period, contact your dealer.

ELEMENT-MF MAINTENANCE

NOTE: WHEN YOU FIRST OPERATE YOUR MULTI-FUEL STOVE, CHECK TO DETERMINE THE NEEDED CLEANING FREQUENCY. THE ELEMENT-MF REQUIRES A MINIMUM AMOUNT OF DAILY MAINTENANCE. REQUIRED MAINTENANCE DEPENDS LARGELY UPON THE QUALITY OF FUEL BURNED AND THE RATE OF BURN. THE AMOUNT OF DAILY MAINTENANCE WILL INCREASE IF FUEL QUALITY DECREASES AND/OR THE BURNING RATE OF THE FUEL INCREASES.

NOTE: FAILURE TO KEEP YOUR STOVE CLEAN, AS DESCRIBED IN THIS MANUAL, COULD RESULT IN POOR OPERATION, INEFFICIENT FUEL USAGE AND A POSSIBLE SAFETY HAZARD! IT IS THE RESPONSIBILITY OF THE OWNER/USER TO DETERMINE THE NEEDED MAINTENANCE FREQUENCY.

CAUTION: THE DOOR AND FRONT PART OF THE MULTI-FUEL STOVE WILL BE HOT. DO NOT TOUCH ANY PART OF THE UNIT THAT IS HOT!

THE ST. CROIX CLINKER THEORY - Some manufacturers of Multi-Fuel stoves use complicated stirring mechanisms to break up the clinker in the burn pot. **We feel that is a mistake.** We believe that corn, wheat or rye will not burn as well when it is disturbed during the burn process. These fuels need high temperatures and proper airflow in the burn pot to burn properly. Much of the energy needed is stored in the clinker that is being formed in the burn pot. It glows red-hot and provides the heat needed to ignite the corn, wheat or rye that is being fed into the burn pot. When the clinker is broken up, this constant source of energy is lost and now it becomes more difficult to burn these fuels. When corn, wheat or rye is not burning properly it tends to stick together and form a clump in the burn pot. It is impossible for air to flow through this clump and soon the pot will overload and the fire goes out. This is where some manufacturers use the stirring mechanism to break up the clump of corn, wheat or rye to maintain proper airflow and others use large burn pots to handle this problem (Smaller burn pots are better). The truth is neither is needed. The St. Croix burn system allows the corn, wheat, rye or Distillers Grain Pellets to be burned efficiently and completely in a relatively small burn pot. Very little residue ends up in the ash pan.

When burning **Pellets** in the Element-MF, ash will build up in a similar manner as the clinker does when burning corn, wheat or rye. The pot is maintained the same way as described in the following section covering the removal of the clinker. The time it takes the pot to fill up with ash depends on the quality of the pellets and on the quantity of pellets burned. The interval of dumping the ash is directly related to the rate of burn. A unit running on a thermostat, cycling at a moderate rate, will generally last approximately 24 – 36 hours. However if the unit is running continuously on the highest setting the Ash will need dumping every 15 to 18 hours. **It is the responsibility of the Owner/User of the Stove to determine the frequency of dumping the Ash, based on the rate of burn and the quality of pellets (ash content).**

Clinker/Ash Removal – Element-MF with the Multi-Fuel Pot

Once a clinker/ash has formed in the burn pot, *it must be removed* or the unit will go out. The St. Croix Burn system is designed to remove the clinker/ash without loosing the fire in the burn pot. It is a 3-step system.

1. The Coal Rake. This is a "fork" shaped device that will allow the operator to "shave" the burning coals off the top of the clinker, separating the 2 areas of the burn pot. The burning fuel on top and the clinker on the bottom.

2. The Slide-Out Bottom. This allows the bottom to be pulled out so the clinker can drop out of the bottom of the burn pot.

3. The program on the control board. To drop the clinker you set the board to the #1 setting for a couple of seconds and then return the setting to the desired level. This starts a timed delay in the program allowing the clinker to be removed, the coals to be dropped to the bottom of the pot, and the Burn to become balanced again before the board resumes on the setting of your choice.

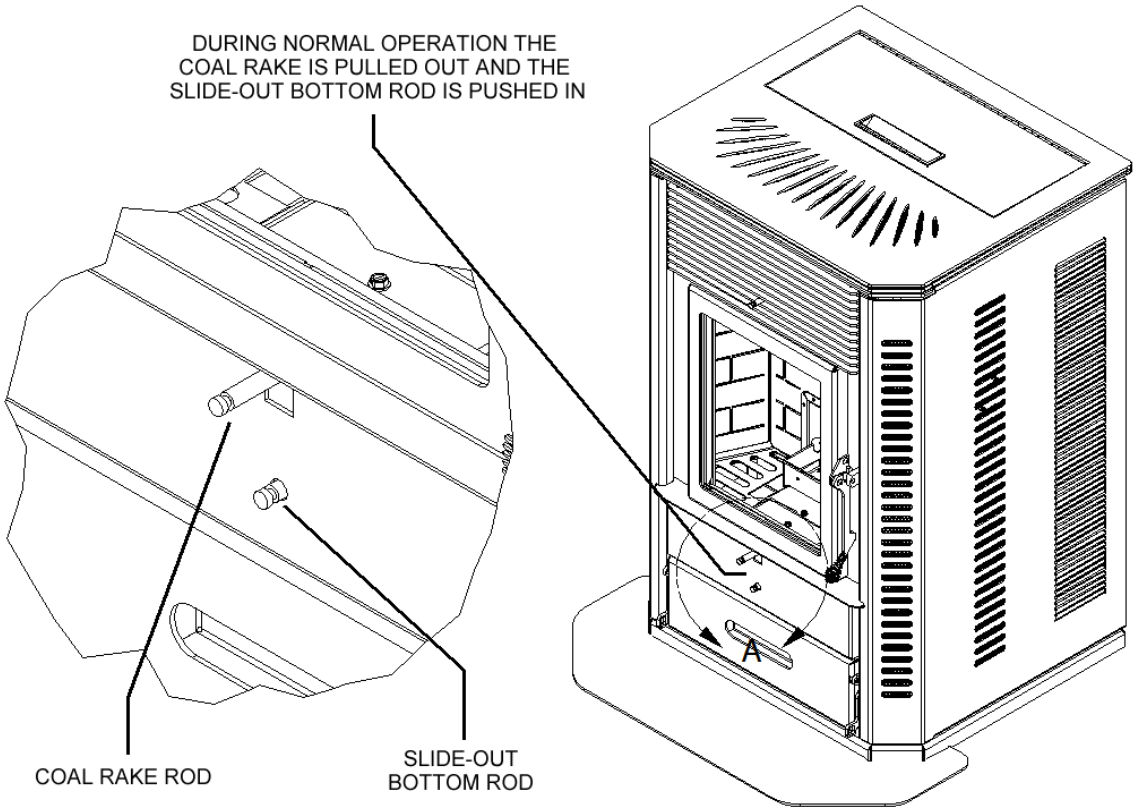


Figure 24
(Also see figure 2 on page 7)

Daily Maintenance – Element-MF with the Multi-Fuel Pot

Example Schedule for dropping Clinkers and Ash from burn pot: This may be required more than once a day, depending on the burn rate of the unit and the quality of Fuel used. **Check the Multi-Fuel Stove frequently at first to establish a Schedule for cleaning the burnpot. If Clinker/Ash is not removed, the burnpot will overload and fuel will spill into the Ashpan.**

1 - Continuous burning of the Multi-Fuel Stove on the Low burn setting (Pilot) – **Drop the Clinker approximately every 40 hours.** This may vary depending on the quality of Fuel used.

2 - Continuous burning of the Multi-Fuel Stove at the High burn setting (#5) – **Drop the Clinker approximately every 18 hours**. This may vary depending on the quality of Fuel used.

The Daily Maintenance will mainly focus on 4 areas in the Element-MF; removing the clinkers from the ash pan (if needed), dropping the clinker from the burnpot, cleaning the heat exchange tubes and cleaning the glass. A break down of this process consists of these steps:

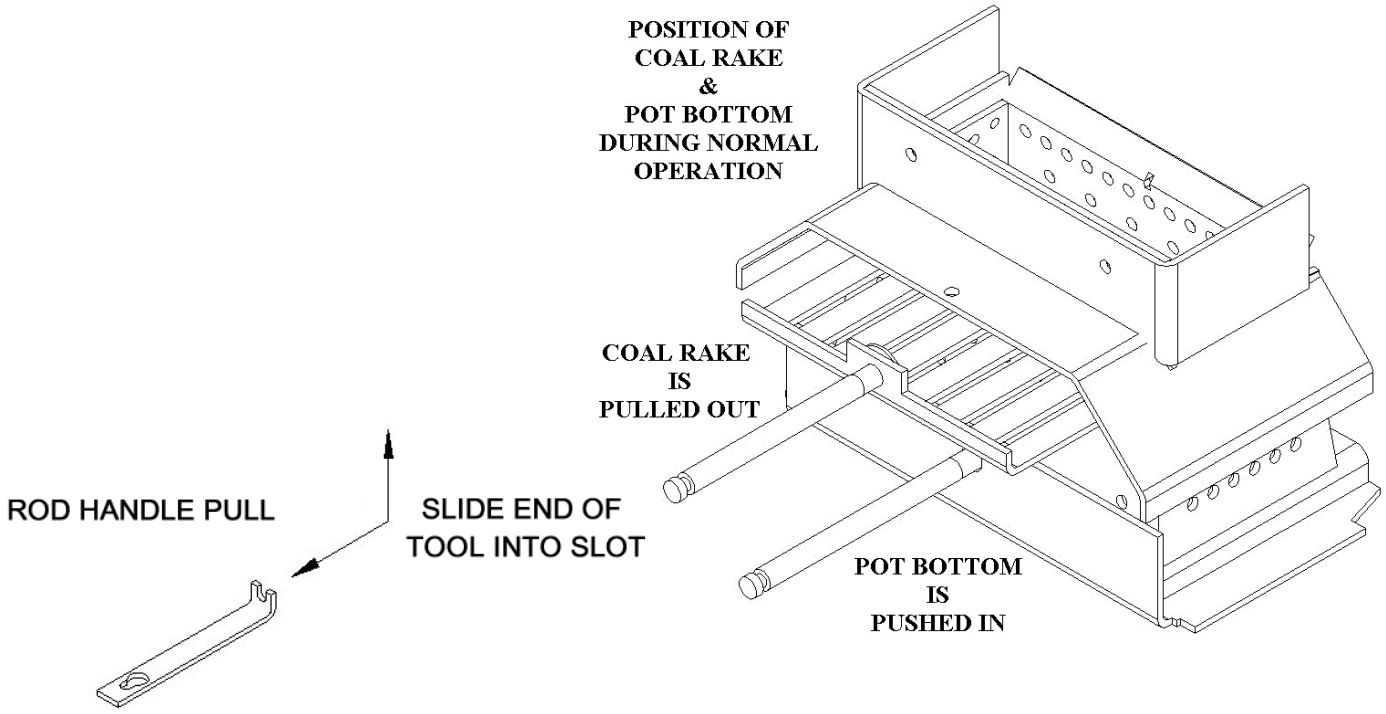


Figure 25

The Coal Rake & the Slide-Out bottom must be in the correct position for the unit to operate correctly. The Coal Rake must be pulled out or the burn pot will overload.

1. **The Coal Rake.** The first step is to push the coal rake in and separate the coals from the clinker. Once this is done, open the door and add a ¼ cup of pellets on top of the coals. To push in the Coal rake, use the Rod Handle tool that came with the unit. *(See figure 25 and 26)*

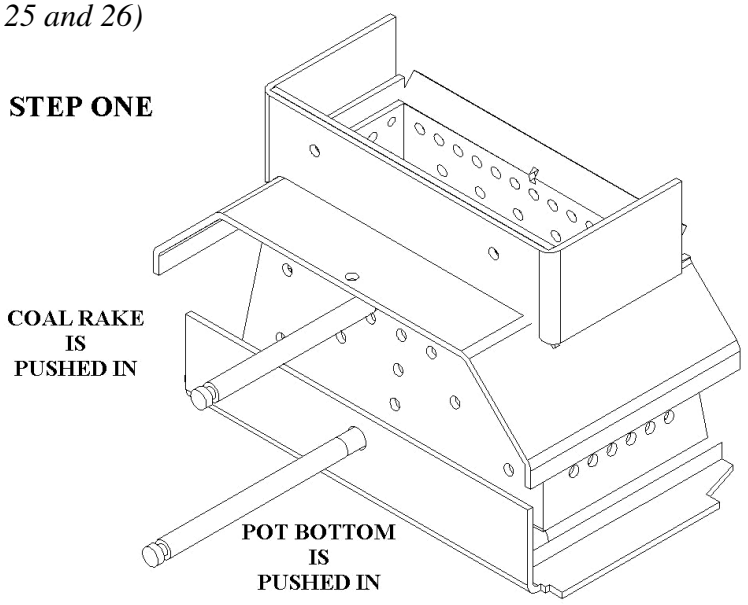


Figure 26

2. **The Ash Pan.** Make sure the Ashpan is not too full to receive a clinker. If the Ashpan is too full, the clinker may not drop all the way through. This will not allow the Slide-Out Bottom to be closed. If this happens, empty the Ashpan and restart the unit.

3. **The Slide-Out Bottom.** *(See figure 27)* Now you are ready to drop the clinker from the burn pot. Pull the bottom out in one quick motion and let the clinker drop into the ash pan. Quickly push the bottom in again. To pull out the slide bottom use the Rod Handle tool that came with the unit.

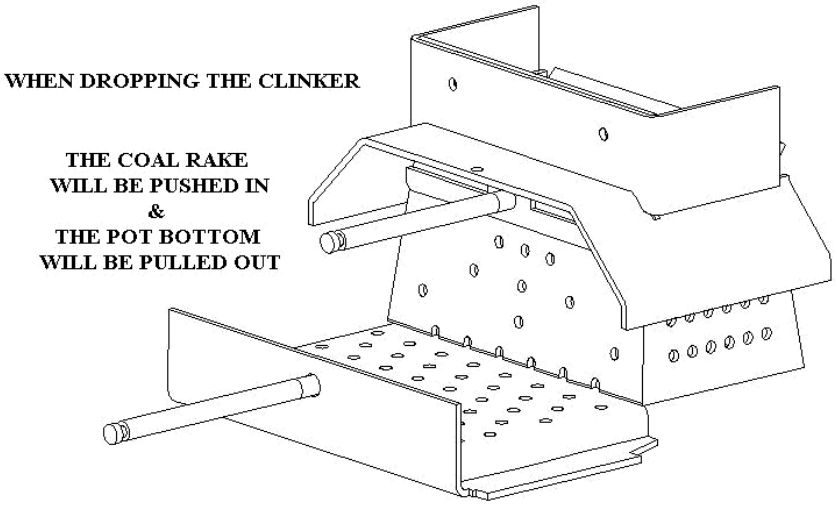


Figure 27

4. **The Control Board.** Set the heat setting to #1 for a few seconds and return to the setting it was on. This initiates the time delay for dropping the clinker.

5. Dropping the coals back into the burn pot. At this time pull the coal rake back out of the burn pot to drop the coals in the pot. *See position of Coal Rake & Pot Bottom in figure 25 on page 42 for normal operation.*

The time delay in the program will allow a smooth transition back to where the Stove was burning before the clinker was dropped.

6. Cleaning the Heat Exchange Tubes. Now you can pull the Tube Scraper back and forth a couple of times to keep the tubes clean. If the Tube Scraper feels sticky and difficult to move, check for the presence of creosote on the tubes. If creosote is present a damper adjustment may be needed or the Multi-Fuel Stove has become plugged and needs a thorough cleaning. Call Dealer for assistance. To pull the tube scraper back and forth use the Rod Handle tool that comes with your stove.

7. Use a dry paper towel to clean the glass. Quickly open the door and wipe the glass. The rate of burn will determine how often the window needs cleaning. Prolonged burning at a slow burn rate will result in the need for more frequent window cleaning. Periodically shut the Stove down and wipe the window with a cloth or paper towel and glass cleaner. This will normally keep the window from accumulating difficult to clean residue. Use of a glass cleaner ONLY permitted when the unit is cold.

CAUTION: Do not slam the door. Do not operate the Multi-Fuel Stove with a broken or cracked glass. Replace only with heat resistant ceramic glass supplied by the manufacturer.

There are 2 things to keep an eye on during the cleaning process.

1. If the ash pan door or firebox door were left open for more than 60 seconds the Stove will go into safety shutdown. You will notice that the Multi-Fuel Stove quits augering fuel into the burn pot. Toggle the On/Off switch off and back on. This will reset the board. You will need to use the auger feed button to manually feed fuel into the pot for a couple of minutes until the program resumes.

3. If the Element-MF has been running for an extended period of time on the #5 setting, the clinker will sometimes stick to the burn pot. If that happens, pull the coal rake back out. Open the door and use a long screwdriver and give the clinker a couple nudges in the pot. (Make sure the burnpot bottom is closed when you do this or you will lose the coals with the clinker) Then repeat the steps for dropping the clinker.

Remember: The coal rake must be pulled out and the slide bottom pushed in during normal operation of the Element-MF.

Remember: The fire door and ash pan doors must be in the latched position during normal operation of the Element-MF.

Periodic Maintenance

CAUTION: Periodic maintenance should only be done while the Stove is shut off and cold.

1. **Ashpan.** Empty the ash pan when it appears full (approximately once a week). The frequency of cleaning the ash pan will depend on the quality and amount of fuel being used. Carefully check to make sure the ash pan door is tightly closed after each opening.

2. **Burnpot and Slide-Out Bottom.** Clean burn grate holes whenever needed. Remove the Burnpot and use a small metal object (Nail, Drill Bit, etc) to clean out plugged holes. (*See Figure 28 below)*

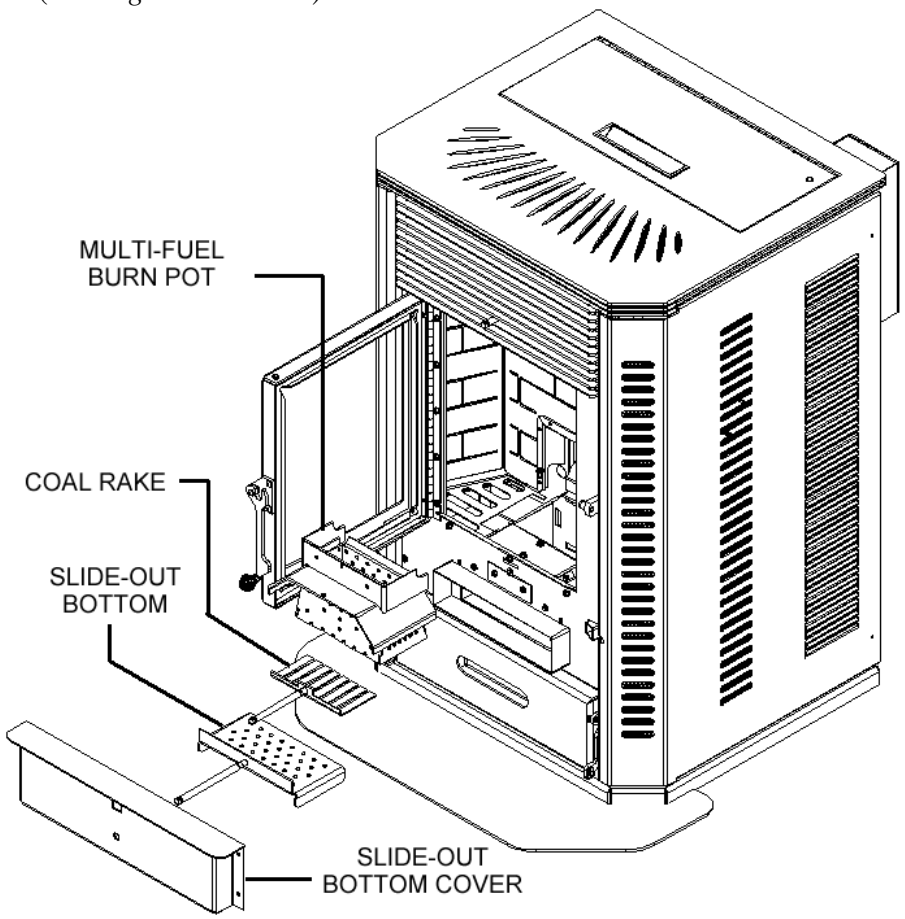


Figure 28
Burnpot & Slide-out Bottom Removal

To remove the Burnpot from the Stove the Coal Rake must be pulled back so the pot will clear it. Open the Firebox door of the Multi-Fuel Stove and you will see 2 Hex head screws. Loosen the first screw enough to allow the Coal Rake to slide out of the burn pot. Remove the screw that holds the burn pot in place and lift the pot out of the Stove. To remove the Slide-out Bottom remove the lower panel. Slide the bottom out of the Stove.

3. **Clean-Out Ports.** The Multi-Fuel Stove has 2 Exhaust Cleanout Ports located in the LEFT AND RIGHT lower corners of the firebox. Remove covers and clean regularly.

   There is an additional Cleanout behind the Ashpan. This cleanout gives access to the transition area behind the back wall all the way back to below the Combustion Fan. If the stove seems plugged, this area needs cleaning.

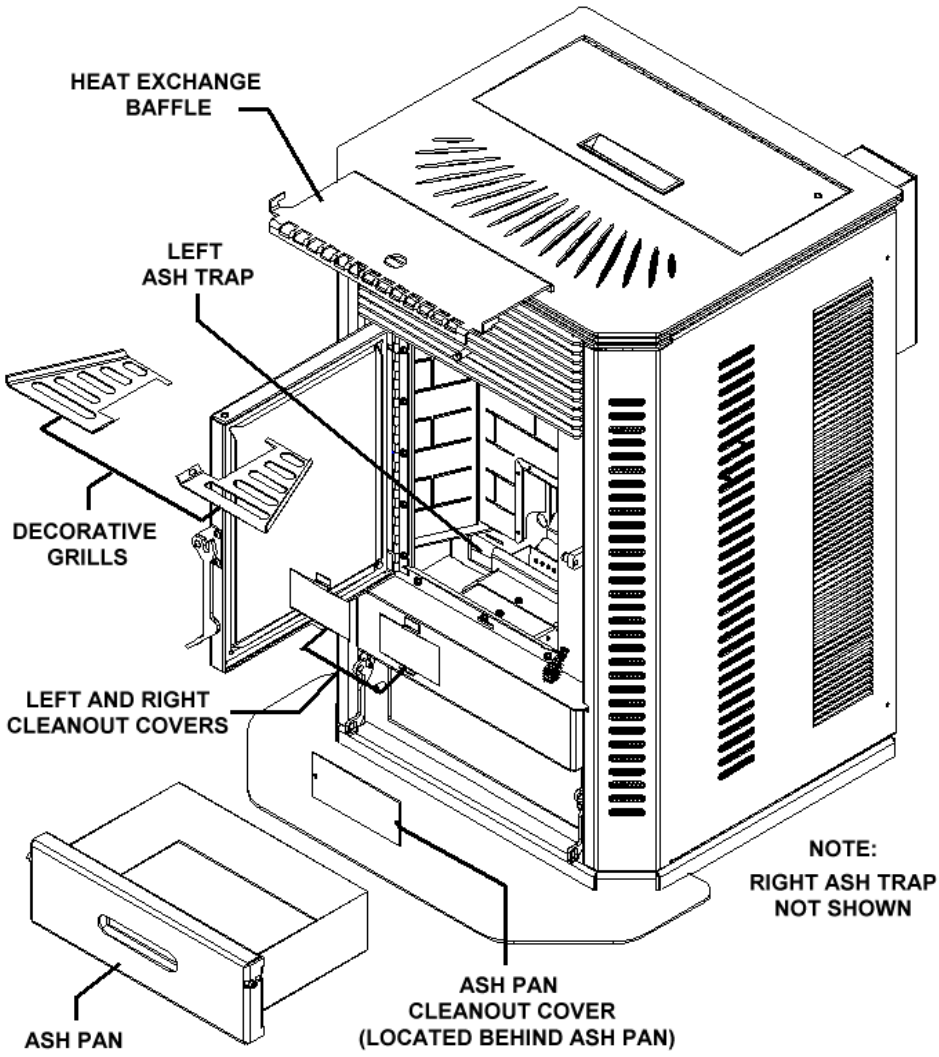


Figure 29

Frequency of cleaning depends on the amount of fuel being burnt and the quality of the Corn, wheat, rye or pellets. **Failure to clean the Ash Traps will cause the Stove to become plugged with Fly Ash.**

4. **Heat Exchange Baffle.** Remove the baffle and clean the ash that accumulates on a regular basis. Once a month or sooner, depending on the quality of fuel being used *(See Figure 29)*

To remove the baffle *(See Figure 29)*, lift the back of the baffle up to clear the inner back of the stove and slide towards the front of the stove. The baffle will slide out of the keyhole slots and drop down. ***When putting the baffle back in the stove, make sure the tabs are in the keyhole slots and the back of the baffle is lifted up over the inner back.*** Clean the baffle on a regular basis. Frequency of cleaning depends on amount of fuel being burnt and the quality of the fuel. Fuel with low ash content is recommended.

Failure to clean the baffle can cause the Stove to become plugged with fly ash.

5. **Exhaust System.** See Figure 28 and 29 for information on cleaning fly ash that collects in the vent system. Periodic cleaning of the exhaust system is required. Under certain conditions chimneys may plug up rapidly. Dirty/High Moisture content Fuel and poor installations require more frequent chimney cleanings. The products of combustion will also contain small particles of fly ash. The fly ash will collect in the exhaust vent and restrict the flow of the flue gases.

   Judge the frequency of cleaning by checking the amount of ash that accumulates in the elbows or tee's of the exhaust system. Ask the dealer for suggested frequency of cleaning, equipment needed and procedures for cleaning. Check the Exhaust system at least once every two months during the heating season. **See Page 25 "Preventing Chimney Fires"**.

6. **Gaskets.** Periodically inspect the condition of the Rope Gasket around the door, window and ash door. Replace as needed.

Yearly Maintenance

Many dealers offer a Service Contract that will cover Yearly Maintenance. Contact your St. Croix Dealer for assistance in maintaining your Element-MF in top condition. Yearly Maintenance is designed to assure Safe Operation, prolong the life of the Element-MF and help preserve its aesthetic appeal.

NOTE: UNPLUG THE STOVE. Open the Left and Right side panels of your Element-MF to gain access to components in the back of the stove. Carefully clean or vacuum any dust, cobwebs and household dust. Carefully vacuum around the fan motors. If electrical wires become disconnected call your dealer for service.

1. **Spring Shutdown.** After the last burn in spring let the unit cool down. Remove all fuel from the Hopper and the Auger. Thoroughly clean the Burn Pot, Burn Pot box, Ash Pan and Ash Traps behind the ash pan. (To locate the ash traps see figure 29 on page 46)

2. The Exhaust System should be thoroughly cleaned at least annually. Call your dealer for this service. (See figure 29 on page 46 and figure 30 below.)

3. The Motor/Fan area behind the firebox and under the hopper should be vacuumed annually. (See figure 30 below)

4. The exhaust fan should be removed and cleaned with compressed air annually. Call dealer for this service. Annual oiling of the motors is not needed. (See figure 30 below)

5. The Convection fans should be removed and cleaned with compressed air annually. Annual oiling of the motors is not needed. (See figure 30 below)

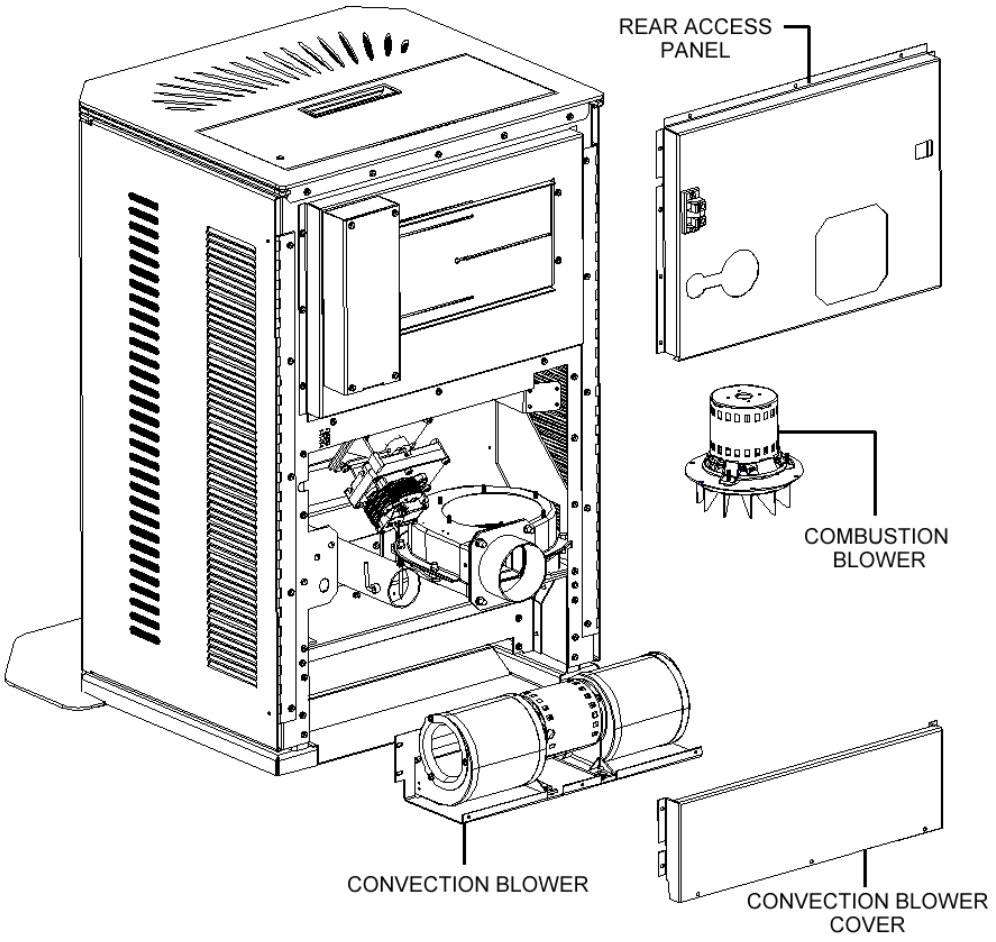


Figure 30

Fall Startup. Prior to lighting the first fire check the outside area around the exhaust and air intake systems for obstructions. Try all controls to see that they are working prior to lighting a fire.

SAFE OPERATION.

1. **Disposal of Ashes.** Ashes should be placed in a metal container with a tight fitting lid. The closed container of ashes should be placed on a non-combustible floor or on the ground, well away from all combustible materials, pending final disposal. If the ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in the container until all cinders have thoroughly cooled.

2. **Never use Gasoline,** gasoline type lantern fluid. Kerosene, charcoal lighter fluid or similar liquids to start or "freshen up" a fire in this heater. Keep all such liquids well away from the heater while it is in use.

3. **Creosote, Soot and Fly Ash:** Formation and Need for Removal. The products of combustion will contain small particles of Fly Ash. The fly ash will collect in the venting system and restrict the flow of flue gases. Incomplete combustion, such as occurs during start-up and shut-down, or incorrect operation of the room heater will lead to some soot or creosote formation which will collect in the venting system. The exhaust system should be inspected regularly during the heating season to determine if creosote buildup has occurred. Check more frequently at first to determine a schedule for cleaning the venting system based on individual use of this Stove. If creosote has accumulated, it should be removed to reduce the risk of a chimney fire.

4. **Do not Over Fire this unit.** Follow all instructions regarding the proper use of this heater.

Wiring Schematic

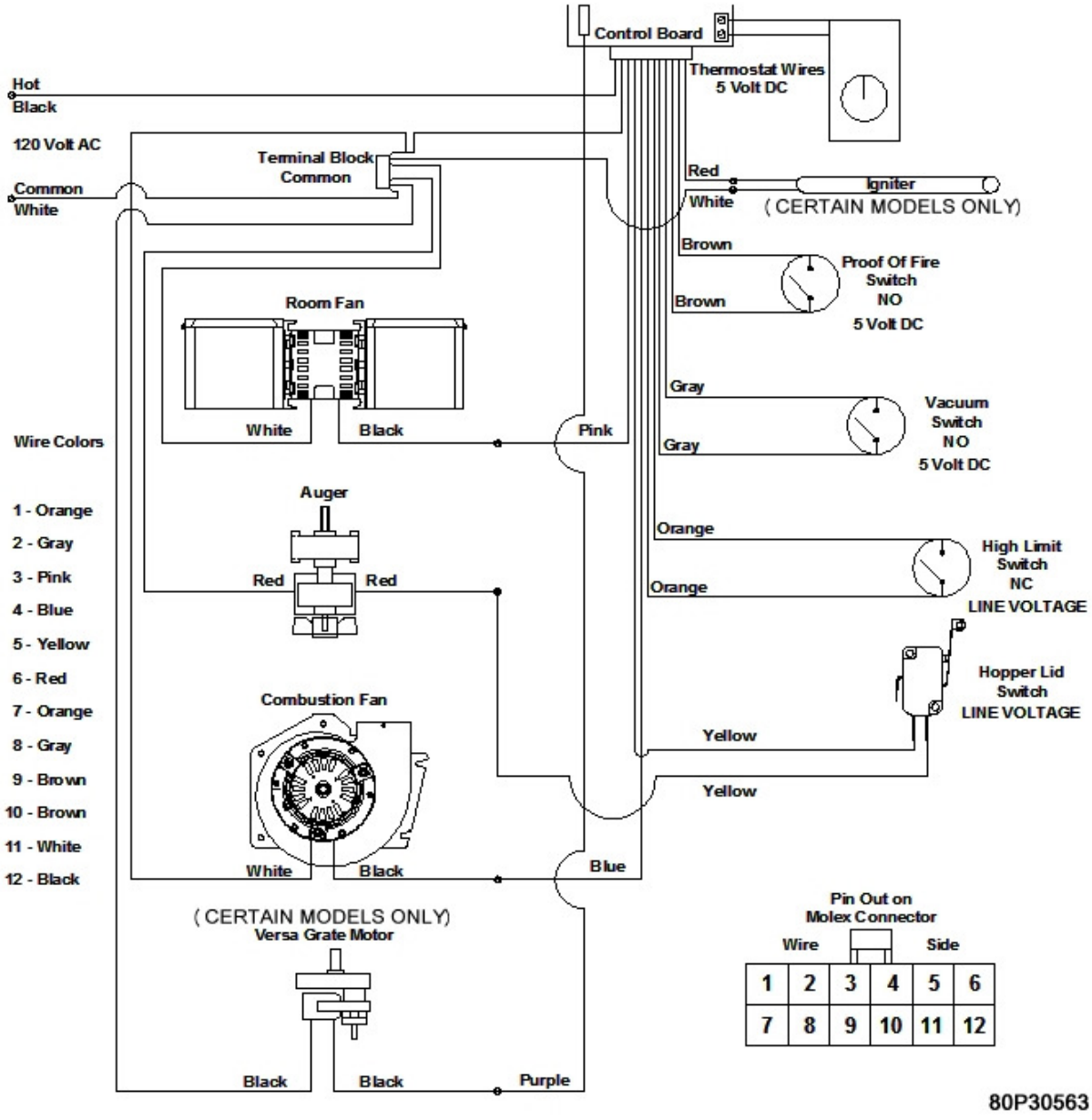


Figure 31

The Electrical Rating of this Multi-Fuel Stove is: 120 Volt, 60 Hz, 4 Amp with the igniter running and approximately 2 Amp with out the igniter running. The minimum recommended circuit is 15 Amp. A dedicated circuit for the Stove is recommended.

CAUTION: The electrical components of the Element-MF are not owner serviceable. Call your dealer for proper diagnosis of electrical problems and service to those components.

TROUBLESHOOTING & FRQUENTLY ASKED QUESTIONS

The Element-MF is equipped with the Multi-Fuel Burn System.

The Stove is very trouble free in operation when properly maintained and quality fuel is used. When the Stove fails to operate properly, troubleshooting by the operator of the Stove is limited. Please read the following guide for answers to frequently asked questions

1. When first starting the Stove, the auger tube is empty, which will delay feeding fuel to the burn pot. This will in some cases prevent the Stove from starting.

   Solution: Prime the burn pot using the Auger Feed button if the auger tube is empty.

2. **My Stove keeps overloading the burnpot.** First check the moisture content of your fuel. It should be 15% or less. Also make sure you are using clean fuel. Otherwise this is mainly caused by improper combustion. (See ***Damper*** Adjustment section of the Operations Manual) Besides the damper adjustment there are several areas that can have an effect on the combustion process.

   Solution: Check all Gaskets, Doors and Door Latching Systems for air leaks. Any leaks in these areas will negatively affect the burn process and cause the pot to overload.

3. **My Stove isn't burning and the number 2 LED light is blinking.** This diagnostic light indicates the vacuum switch no longer senses negative pressure in the firebox area of the Stove. What caused the Stove to go out?

   a. The door of the unit was left open longer than 60 seconds. **(See solution)**
   b. The ash pan door was left open for longer than 60 seconds. **(See solution)**
   c. The combustion fan is not running. (Defective fan or control board)
   d. The vacuum switch is defective.
   e. The vacuum hose is disconnected
   f. The vent system is plugged with fly-ash

   Solution: ***If the fire is out***, re-light the Stove. ***If the fire is still burning*** make sure all doors are securely latched and hold down the On/Off button (approximately 5 seconds) until Stove starts up again. This will re-start the Stove in the start-up program.

4. **My Stove isn't burning and the number 3 LED light is blinking.** This diagnostic light indicates that the Proof of Fire Switch no longer senses a fire in the Stove. First check to see if there are pellets in the hopper. If there are pellets in the hopper, we need to understand why the Stove went out.

a. Unburned fuel in the burnpot means the fire went out before the auger quit feeding.

Solution: Too much Combustion Air on the pilot setting. Adjust the air damper or the combustion fan voltage. (See section covering an ***Unbalanced Burnpot).*** Corn/Pellets would still feed until the P.O.F. switch eventually shuts the Stove down. (See section covering ***Damper Adjustment***)

A power Failure could cause this. If the Stove is still hot when the power comes back on, the feed system will resume. If the fire had gone out in the pot, the feed would continue to run until the Proof of Fire switch dropped out and shut the Stove down.

b. If all the fuel is burned up means the auger quit feeding fuel while there was still a fire in the burnpot. Check to see if there is fuel in the hopper. If the hopper is empty, fill the hopper and re-light the Stove.

If there is fuel in the hopper check to see if there is an obstruction in the auger system or if the auger set screw is loose.

Solution: Remove obstruction and re-light the Stove or tighten the setscrew on the auger shaft.

5. **My Stove isn't burning and the #4 LED light is blinking.** This means the high Limit has shut the Stove down. The Convection Blower could be defective or may need cleaning. The high limit switch may be also defective. It is best to call your dealer for support when trying to troubleshoot the High Limit Switch. Do not use your Stove if the High Limit switch frequently trips.

6. **The Led is off and my stove keeps flashing a #5 Alarm.** This is an indication that something is blocking the sensor. This may point to a maintenance issue in your stove. Refer to the Daily, Periodic and Yearly maintenance sections of your manual.

7. **The LED on the SmartScan sensor is blinking. What does that mean?**

A blinking LED means that there is some type of minor obstruction ***or a minor alignment issue with the sensor*****.** Most likely the lenses that cover the holes on each side of the firebox need cleaning. See Figure 22 on page 34 for the locations of the lenses.

Opening the Side Doors gives you access to the lenses on both sides of the stove.

Carefully slide the lenses out of their brackets and clean with glass cleaner and slide back into the brackets.

Use Caution when touching the sensor. It may knock the sensor out of alignment.

When cleaning the sensor, ***never use alcohol*** or it will cloud the plastic lens. This will cause the sensor to fail over time. A soft dry cloth is best.

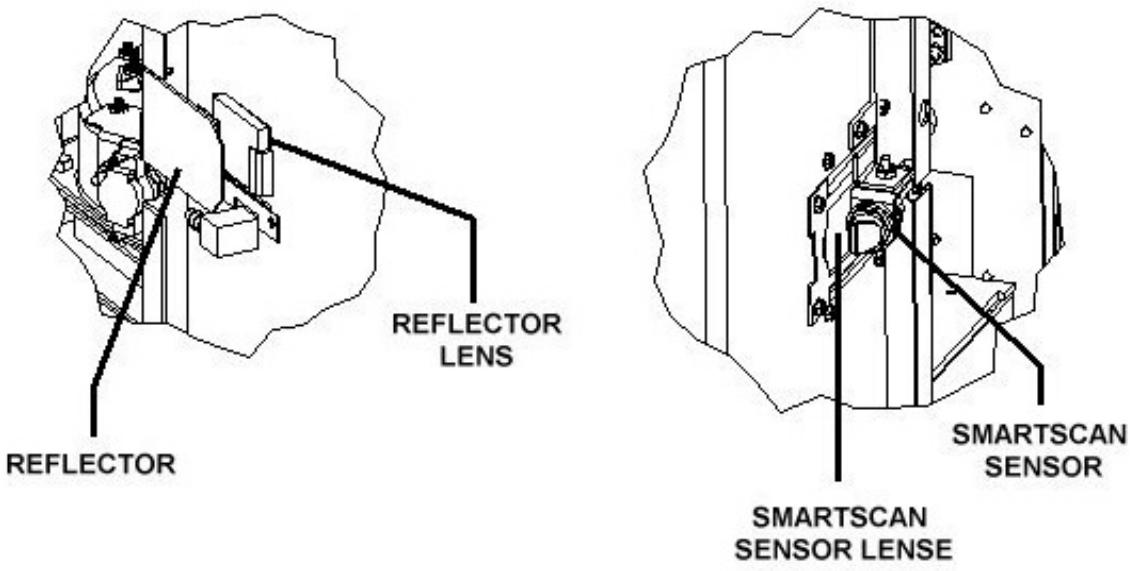


Figure 32

8. **I turned the Stove on with the On/Off switch and nothing happens.** First check to see if the Stove is plugged in and the receptacle has power to it.

   Solution: Check the fuse on the back of the control board. Replace with a 125 Volt, 5 Amp fuse.

9. **Why is my glass dirty?** Normal operation of your St. Croix Stove will produce a light build-up on the glass that wipes off with a dry paper towel. However extended burning on the low setting only will produce a tan color. These types of build-up on the glass are normal. A heavy black build-up on the glass could indicate a problem.

   Solution: Adjust the combustion air damper or combustion fan voltage. If this doesn't seem to help, make sure the clean out cover plates are installed in the Stove. It also could be an indication that the Stove is getting plugged and needs a good cleaning. Refer to the section in the manual that covers the Daily, Periodic and Yearly Maintenance of the Stove.

10. **Are there any adjustments that can be made, through the control board, to the amount of fuel that is fed into the burnpot?**

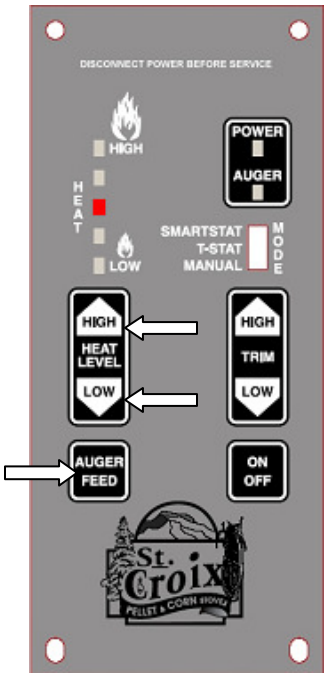


Figure 33

Answer: There are several ways to adjust the amount of fuel that is fed into the burnpot. The Feed Rates can be fine-tuned while the Stove is in operation by ***pressing and holding*** the "Auger Feed" button down and then ***either*** pressing the "Heat Level High" button to advance the feedrate higher, ***or*** pressing the "Heat Level Low" button to decrease the feedrate.

There are 5 levels on the control board and they are indicated by a single flash of the LED's. The default setting is the center LED. This gives 2 adjustments increasing the Feed Rate (LED's 4 & 5) and 2 adjustments decreasing the Feed Rates. (LED's 1 & 2) The ON time is ***increased or decreased*** .25 seconds with each adjustment.

11. **Are there any adjustments that can be made, through the control board, to the Combustion Fan voltages to help adjust the draft?**

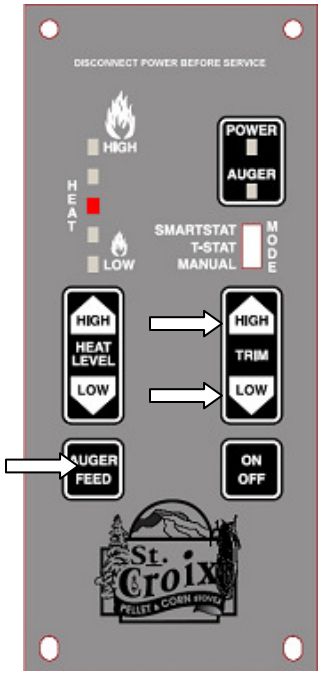


Figure 34

Answer: The Draft can be adjusted in a similar fashion as mentioned in the previous example.

The Fan voltages can be fine-tuned while the Stove is in operation by ***pressing and holding*** the "Auger Feed" button down and then ***either*** pressing the "Trim High" button to advance the voltages higher, ***or*** pressing the "Trim Low" button to decrease the fan voltages.

There are 5 levels on the control board and they are indicated by single flash of the LED's. The default setting is the center LED. This gives 2 adjustments increasing the voltage (LED's 4 & 5) and 2 adjustments decreasing the voltage. (LED's 1 & 2) The voltage is ***increased or decreased*** 2.5 volts with each adjustment.

12. **Are there Cycle Time adjustments on the Control Board for different types of fuel?**

Answer: There are 4 individual programs on the control board, each with a different Cycle time.

The Control board has been factory set to the default Program for your Model. When reprogramming the control board, you will see LED light flash, as shown in the figure to the right. The LED lights flash in the following manner:

Program 1 – 11.5 second cycle time. The LED's flash **once**. This program is for use with Pellets, Corn, Wheat, Rye, Cherry Pits or Distiller Grain Pellets. *(When using this program with Wheat or Rye, the ON-Times may need to be decreased. See point 10 on page 54).* ***This program is not for use with the Element-P***

Program 2 – 13.0 second cycle time. The LED's flash **twice**. This program is for use with Pellets, Corn, Wheat, Rye, Cherry Pits or Distiller Grain Pellets. ***This program is not for use with the Element-P***

Program 3 - 11.5 second cycle time. The LED's flash **three times**. This program is for use with Pellets & Cherry Pits. This program does have Self-Ignition and is used in units that have the Versa Grate System & Igniter installed. ***This program is not for use with the Element-MF.***

Program 4 – 10.0 second cycle time. The LED's flash **four times**. ***This program is for use with Cherry Pits only.*** This program does have Self-Ignition and is used in units that have the Versa Grate System & Igniter installed. ***This program is not for use with the Element-MF.***

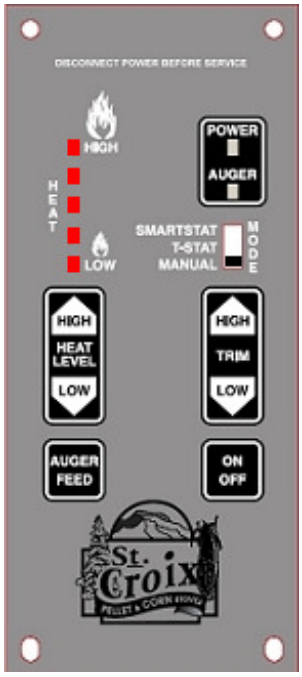


Figure 35

13. **How do I change to a different Program on the control board?**

First the Stove must be turned off and cooled down.

Step 1 - The Thermostat switch must be in the **Manual** position.
Step 2 – Press and hold the **Auger Feed** Button.
Step 3 – Press the **Trim High and Low** Buttons at the same time.
Release all 3 buttons simultaneously.
Step 4 – Observe the LED light flashing according to the Program chosen. Program 1 flashes once, Program 2 flashes twice, Program 3 flashes three times and Program 4 flashes 4 times.

Changing the Cycle Time will change the BTU Input of the Stove. The longer the Cycle time the lower the BTU rating.

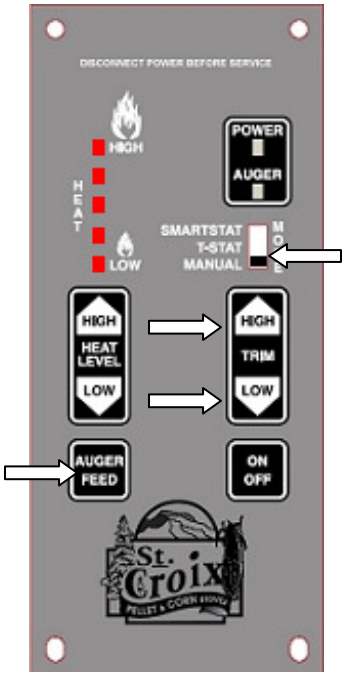


Figure 36

Element-MF Parts

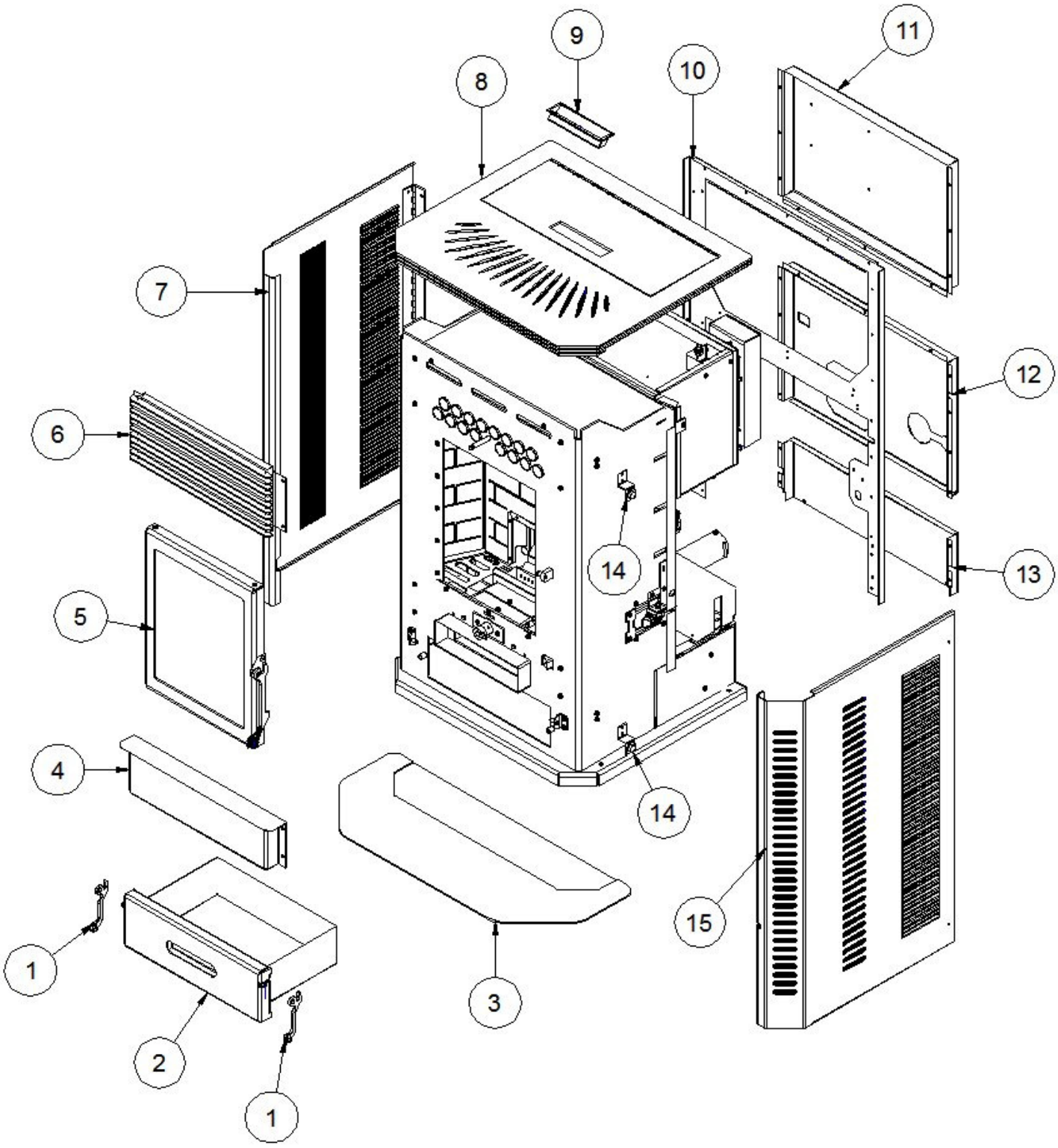


Figure 37

Element-MF Parts

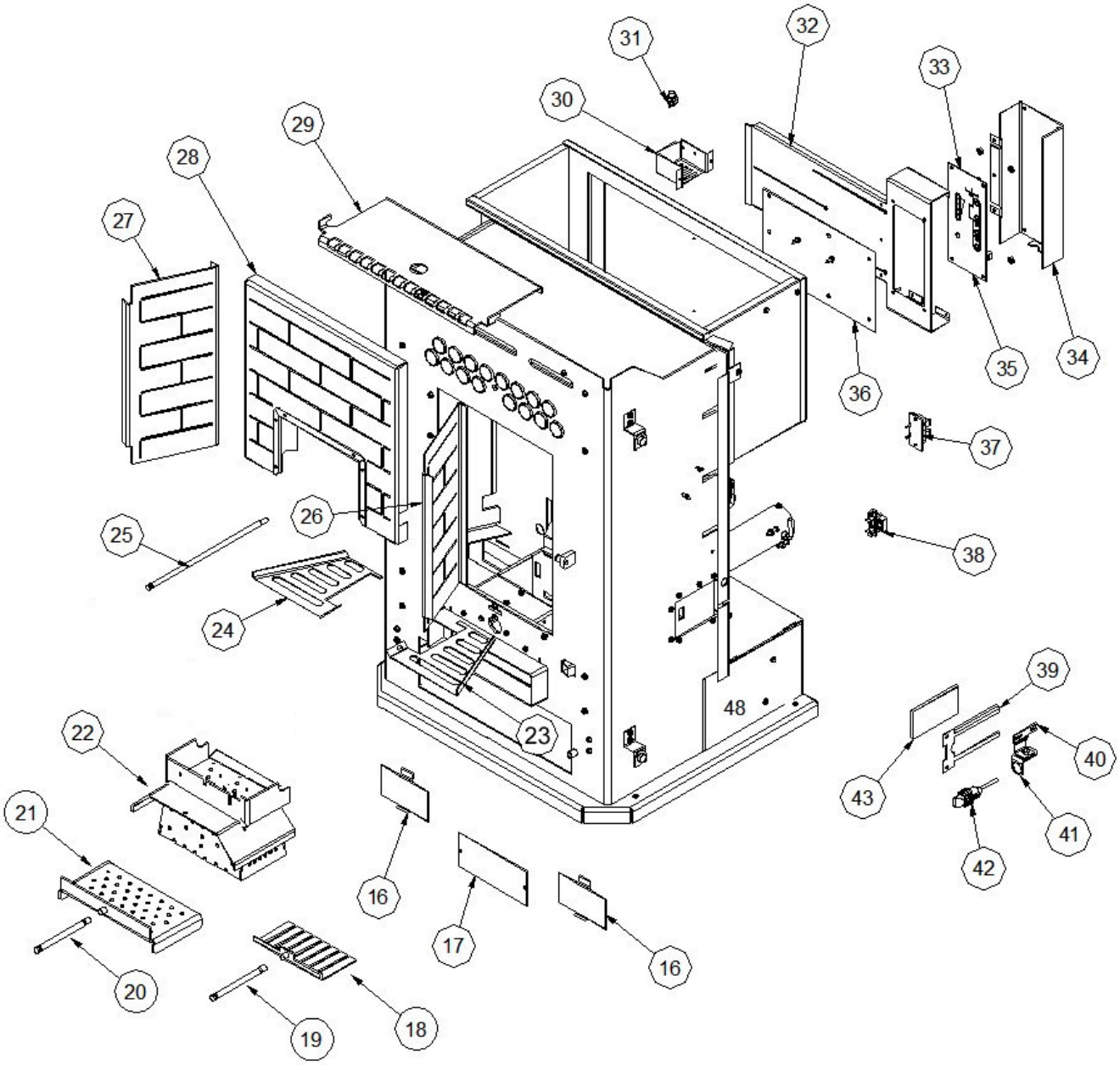


Figure 38

Element-MF Parts

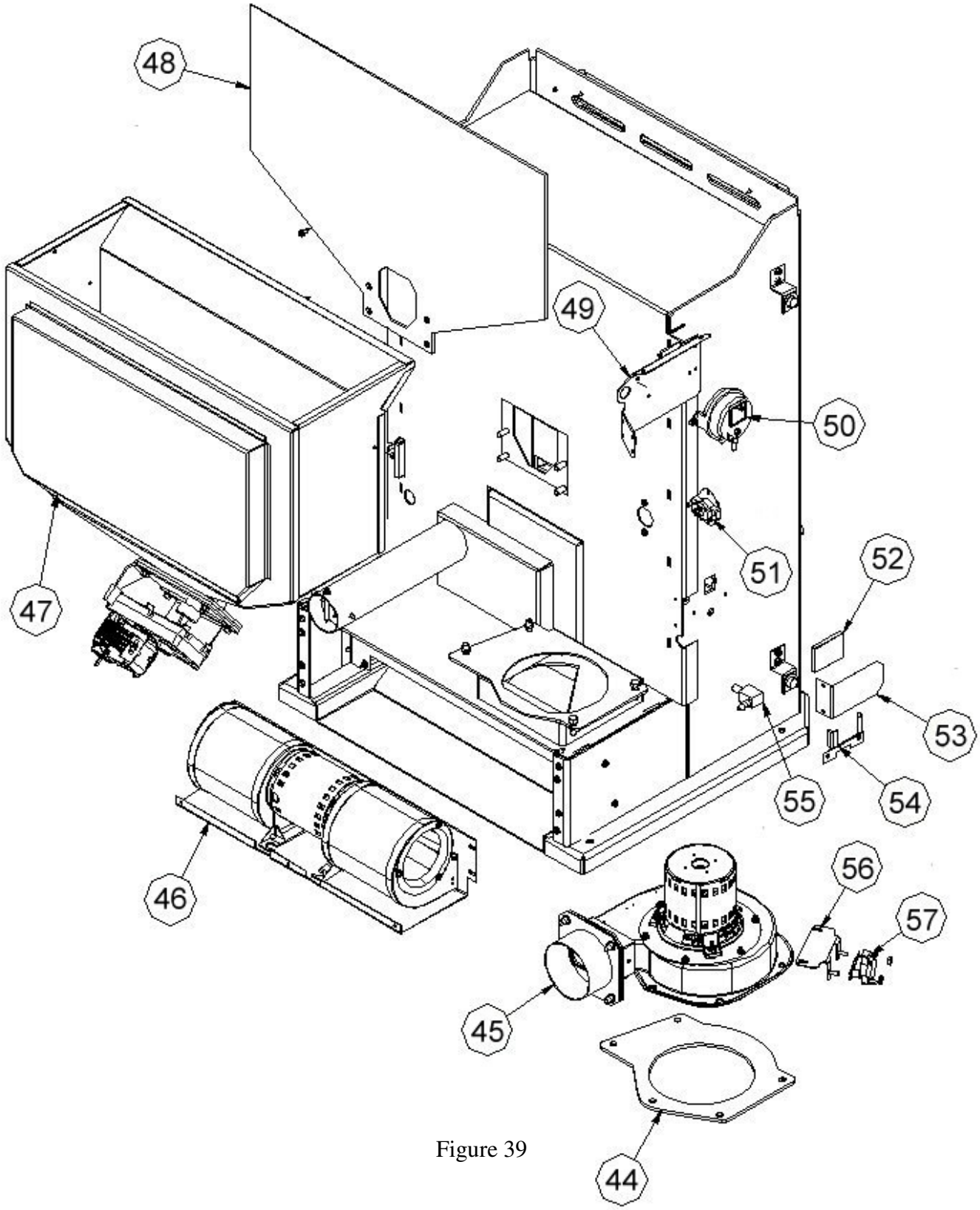


Figure 39

Element-MF Parts

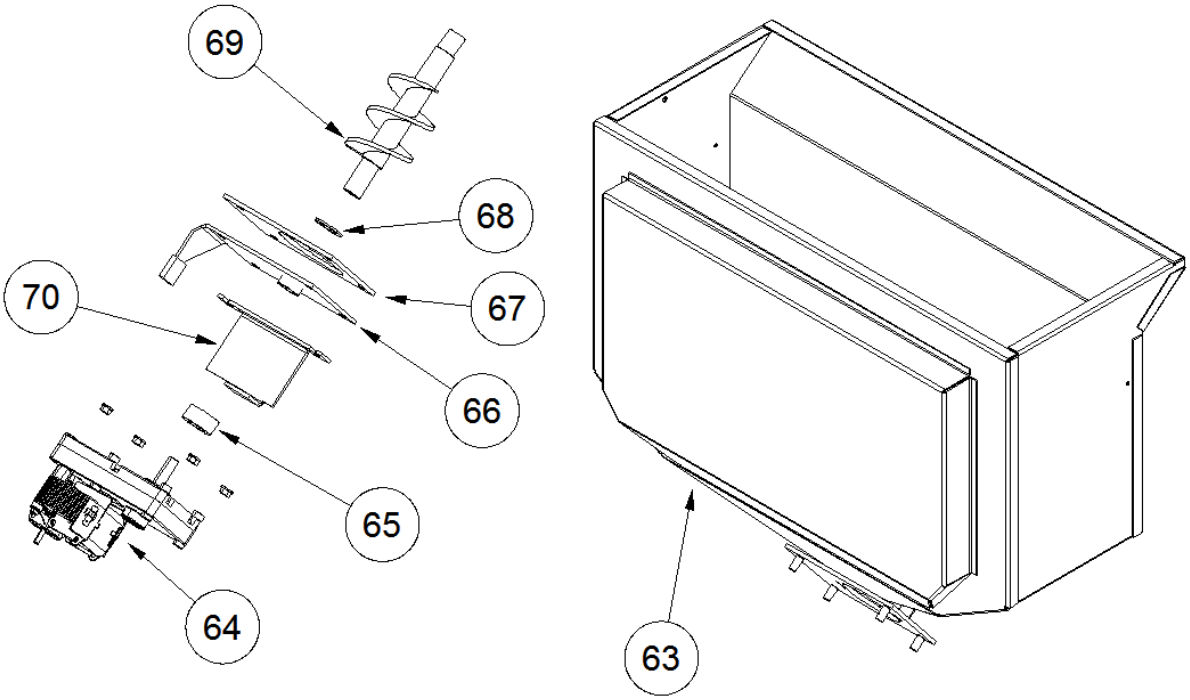


Figure 40

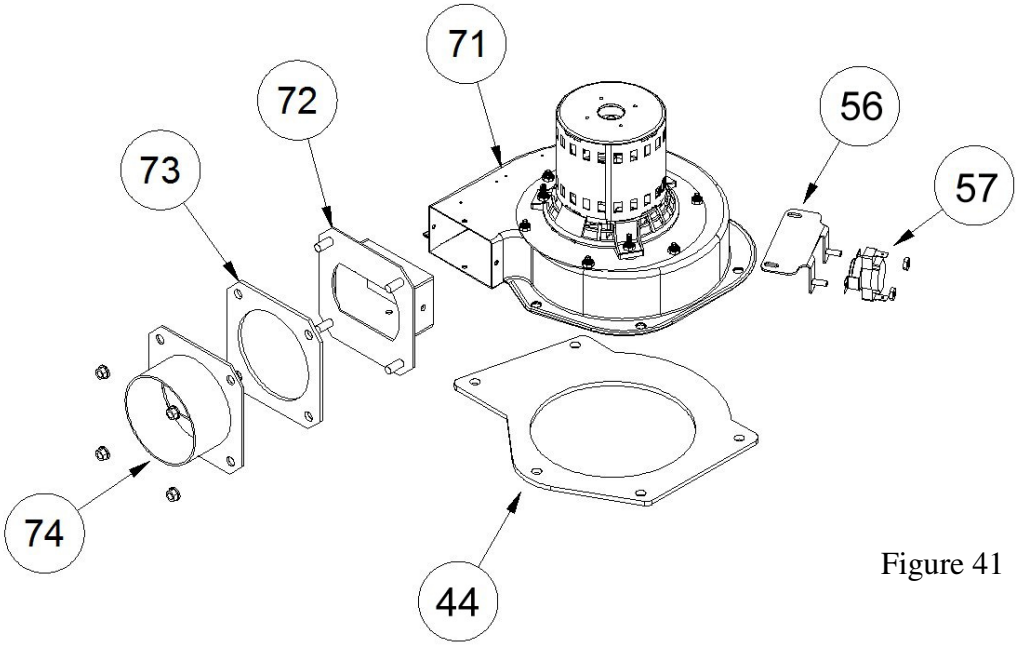
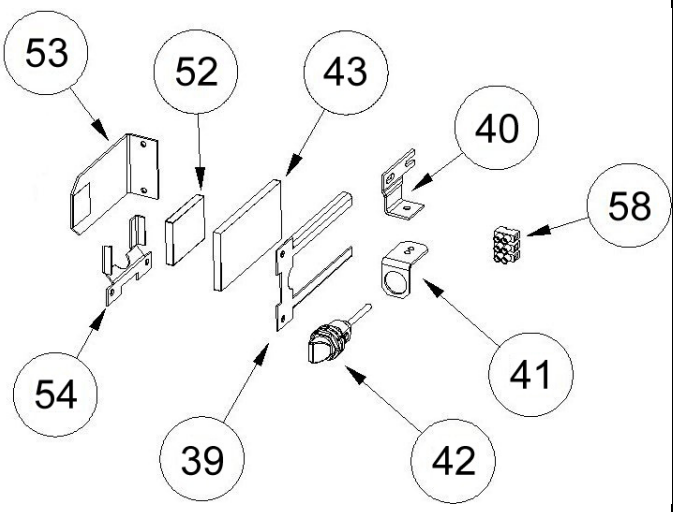


Figure 41

Element-MF Parts



Sensor System Figure 42

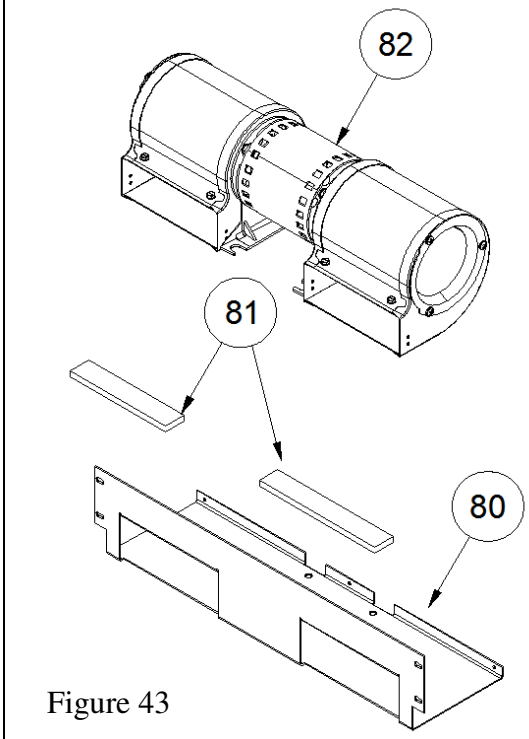


Figure 43

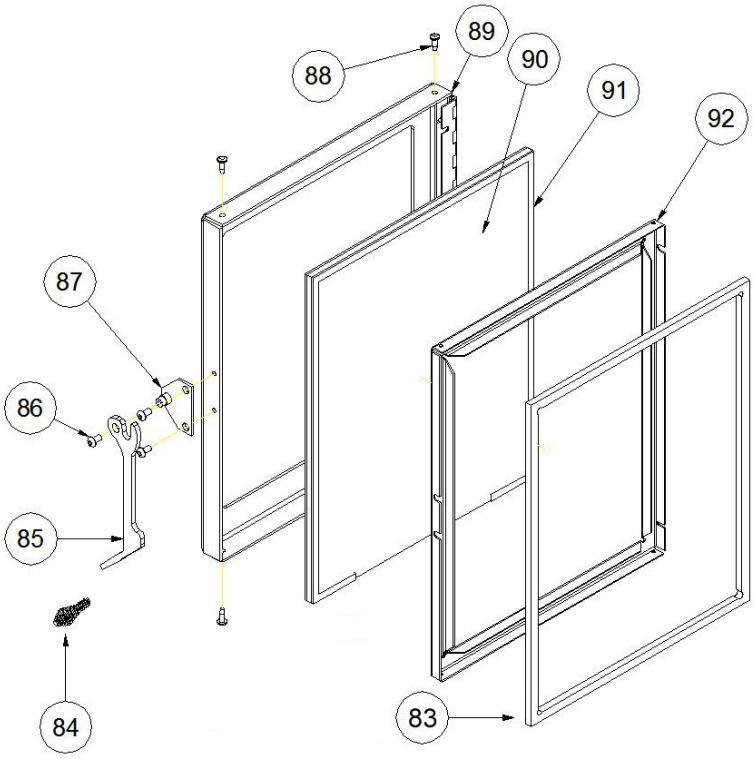


Figure 44

#	PART NUMBER	DESCRIPTION
1	80P31008-R	ASH DOOR HANDLE
2	80P54243-R	ASHPAN WELDMENT
3	80P54220-R	SPARK ARRESTOR PAD
4	80P54185-R	ASHLIP WELDMENT
5	80P52948-R	DOOR ASSEMBLY - COMPLETE
6	80P54221-R	LOUVER BOX WELDMENT
7	80P54186-R	LEFT SIDE DOOR-WELDMENT
8	80P54164-R	TOP WELDMENT
9	80P20183-R	HANDLE PULL P2-54 FOR HOPPER LID
10	80P30903-R	BACK PANEL
11	80P30973-R	REAR HOPPER COVER
12	80P30970-R	BACK PANEL COVER
13	80P30042-R	BLOWER COVER
14	80P54223-R	DOOR MAGNET ASSEMBLY
15	80P54187-R	RIGHT SIDE DOOR WELDMENT
16	80P52237-R	CLEANOUT COVER PLATE
17	80P30280-R	ASHPAN CLEANOUT COVER
18	80P53619-R	COAL RAKE WELDMENT
19	80P52568-R	COAL RAKE ROD
20	80P52627-R	POT SLIDER ROD
21	80P54184-R	POT SLIDER WELDMENT
22	80P54183-R	MULTI-FUEL POT WELDMENT
23	80P30927-R	DECORATIVE GRILL - RIGHT
24	80P30926-R	DECORATIVE GRILL - LEFT
25	80P52567-R	TUBE SCRAPER ROD
26	80P30924-R	BRICK RIGHT SIDE PANEL
27	80P30923-R	BRICK LEFT SIDE PANEL
28	80P54181-R	STEEL BRICK - BACK PANEL
29	80P52366-R	HEAT EXCHANGE BAFFLE
30	80P30697-R	HOPPER LID SWITCH BOX
31	80P31003-R	HOPPER LID SWITCH
32	80P53785-R	CONTROL BOARD BOX WITH CLINCH STUDS
33	80P30523B-R	CONTROL BOARD
34	80P52658-R	CONTROL BOARD HARNESS RESTRAINT
35	**NOT USED**	**NOT USED**
36	80P53681-R	SLIDE-TOP STANDOFF PLATE ASSEMBLY
37	80P30045-R	SPEAKER TERMINAL
38	80P52630-R	TERMINAL BLOCK
39	80P30809-R	GLASS RETAINER
40	80P30807-R	RIGHT ANGLE SENSOR BRACKET
41	80P54205-R	ADJUSTABLE SENSOR BRACKET ASSEMBLY
42	80P30948-R	PHOTOELECTRIC SENSOR

#	PART NUMBER	DESCRIPTION
43	80P30962-R	SENSOR GLASS
44	80P20168-R	COMBUSTION FAN GASKET
45	80P54216-R	COMBUSTION FAN ASSEMBLY
46	80P52949-R	CONVECTION FAN ASSEMBLY
47	80P54281-R	HOPPER ASSEMBLY
48	80P60489-R	HOPPER MOUNT GASKET
49	80P30989-R	VACUUM SWITCH MOUNTING BRACKET
50	80P30658-R	VACUUM SWITCH
51	80P52629-R	MANUAL RESET HIGH LIMIT DISC
52	80P30810-R	SENSOR GLASS
53	80P54188-R	SENSOR REFLECTOR PLATE ASSEMBLY
54	80P30808-R	GLASS RETAINER - BENT
55	80P52634-R	BARB FITTING
56	80P54217-R	P.O.F. SWITCH BRACKET ASSEMBLY
57	80P20038-R	PROOF OF FIRE DISC
58	80P30992-R	PLASTIC TERMINAL BLOCK
59	**NOT USED**	**NOT USED**
60	**NOT USED**	**NOT USED**
61	**NOT USED**	**NOT USED**
62	**NOT USED**	**NOT USED**
63	80P54280-R	HOPPER WELDMENT
64	80P20278-R	AUGER MOTOR
65	80P20248-R	5/8" COLLAR WITH SETSCREW
66	80P54074-R	MOTOR MOUNT BRACKET AND END CAP
67	80P20245-R	AUGER GASKET
68	80P50858-R	AUGER BUSHING WASHER
69	80P52956-R	AUGER WELDMENT
70	80P30191-R	MOTOR RETAINER BRACKET
71	80P30521-R	COMBUSTION FAN
72	80P52889-R	EXHAUST ADAPTER PLATE ASSEMBLY
73	80P52232-R	QUICK DISCONNECT GASKET
74	80P52887-R	QUICK CONNECT PIPE WELDMENT
75	**NOT USED**	**NOT USED**
76	**NOT USED**	**NOT USED**
77	**NOT USED**	**NOT USED**
78	**NOT USED**	**NOT USED**
79	**NOT USED**	**NOT USED**
80	80P52437-R	CONVECTION FAN MOUNT BRACKET
81	8709K46	1/4" x 1" FOAM TAPE – **19.5”**
82	80P20003-R	CONVECTION FAN
83	80P20132-R	DOOR GASKET – 48”
84	80P20131-R	SMALL BRASS COIL
85	80P53773-R	DOOR HANDLE - PAINTED

#	PART NUMBER	DESCRIPTION
86	10-24X3-8BSHCS	10 - 24 X 3/8" BUTTON SOCKET CAP SCREW
87	80P53677-R	MOUNT PLATE ASSEMBLY
88	8X1/2HWHTEK-B	#8 X 1/2" HWH TEK SCREW - BLACK
89	80P52947-R	DOOR WELDMENT
90	80P52375-R	DOOR GLASS
91	80P20022-R	GLASS GASKET – 44”
92	80P52357-R	GLASS RETAINER

WARRANTY

The Element-MF, manufactured by Even Temp, Inc., is warranted for five (5) years, to the original owner, against defects and workmanship on all steel parts (excluding the burn grate) and two (2) year on electrical components from the date of sale to the original owner. There specifically is no warranty on the paint, glass, burn grate and all gaskets. There is no written or implied performance warranty on the Element-MF, as the manufacturer has no control over the installation, daily operations, maintenance or the type of fuel burned.

This warranty will not apply if the Element-MF has not been installed, operated and maintained in strict accordance with the manufacturer's instructions. Burning other than quality corn, wheat, rye or pellets may cause damage to the unit and could void the warranty.

The warranty does not cover damage or breakage due to misuse, improper handling or modifications.

A warranty registration card is provided. The card is to be checked and signed and returned to factory, by the owner. Appropriate information is to be noted on the card.

All claims under this warranty must be made through the dealer where the Element-MF was purchased. If an inspection by the dealer indicates that a warranty claim is justified, and that all conditions of this warranty have been met, the manufacturer's total responsibilities and liabilities shall be to repair or replace, at the manufacturer's option, the defective part(s). All costs of removal, shipment to and from the dealer or manufacturer, any losses during shipment and reinstallation and any other losses due to the Element-MF being removed shall be covered by the owner of the Multi-Fuel Stove.

NEITHER THE MANUFACTURER, NOR THE SUPPLIERS TO THE PURCHASER, ACCEPT RESPONSIBILITY, LEGAL OR OTHERWISE, FOR THE INCIDENTAL OR CONSEQUENTIAL DAMAGE TO PROPERTY OR PERSONS RESULTING FROM THE USE OF THIS PRODUCT. ANY WARRANTY IMPLIED BY LAW, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS, SHALL BE LIMITED TO ONE (1) YEAR FROM THE DATE OF ORIGINAL PURCHASE. WHEN A CLAIM IS MADE AGAINST THE MANUFACTURER BASED ON THE BREACH OF THIS WARRANTY OR ANY OTHER TYPE OF WARRANTY EXPRESSED OR IMPLIED BY LAW, MANUFACTURER SHALL IN NO EVENT BE LIABLE FOR ANY SPECIAL, INDIRECT, CONSEQUENTIAL OR OTHER DAMAGES OF ANY NATURE WHATSOEVER IN EXCESS OF THE ORIGINAL PURCHASE PRICE OF THIS PRODUCT. ALL WARRANTIES BY MANUFACTURER ARE SET FORTH HEREIN AND NO CLAIM SHALL BE MADE AGAINST MANUFACTURER ON ANY ORAL WARRANTY OR REPRESENTATION.

Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations of implied warranties; therefore the limitations of exclusions set forth in this warranty may not apply to you. This warranty gives you specific legal rights, and you may have other rights, which vary from state to state.

Notes:

After the break in period, please note any adjustments that were made to the Feed Trim and Draft Trim on the control board in the area below. In the event of a power failure or if the units gets unplugged the trim settings will be lost.

Feed Trim: Circle one (See point 3 on page 31)

LED #1 LED #2 LED #3 LED #4 LED #5

Draft Trim: Circle one (See point 4 on page 31)

LED #1 LED #2 LED #3 LED #4 LED #5

FUEL: Circle One

PELLETS CORN WHEAT RYE CHERRY PITS DISTILLERS GRAIN

PROGRAM: Circle one (see Figure 20 on page 29)

1 2 3 4

Serial Number:

Date of Purchase:

Dealer Information: